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A REVISION OF THE GENUS FUCHSIA  
(ONAGRACEAE)

BY

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INTRODUCTION

FOR A LONG TIME a garden favorite, the genus *Fuchsia* seems in recent years to have stimulated new interest and enthusiasm, and many new importations of botanical species have been propagated and are being used for hybridization and culture. The great variation in habit, in size, in color, in climatic conditions to which native,—all add to the possibility for use both as an indoor plant, and for milder climates, as a garden plant which can be adapted to hanging baskets, ground cover, shrub, vine or tree. With flowers ranging in size from a few millimeters to many centimeters, through various shades of green, red to purple, it is not surprising that it should command attention. Strangely enough, so important a genus has had no botanical revision since many of the species have become known. For horticultural as well as for botanical purposes, it seems desirable to know what the species are and where they come from. To this end, the present paper is presented.

*Fuchsia* was first made known to science by a monk named Father Charles Plumier who described a species which he called "*Fuchsia triphylla flore coccineo*" in his "Nova Plantarum americanarum Genera," p. 14, tab. 14, 1703. Linnaeus in 1753 based his *Fuchsia triphylla* on Plumier's description and figure. For a long time there was confusion as to the application of this name, it being used commonly for species from Colombia, such as *F. venusta*, but now it seems pretty well demonstrated that Plumier's plant came from Santo Domingo. *Fuchsia* was apparently first introduced into England about the end

of the 18th Century by a sailor who grew it in a window where it was observed by a nurseryman of Hammersmith, a Mr. Lee, who succeeded in buying it and propagating it for the trade. This seems to have been one of the short-tubed species such as *F. magellanica* or *coccinea*. Later introductions of long-tubed ones were crossed with the short ones and our common garden hybrids have been developed.

The name *Fuchsia* was given by Plumier in honor of Leonhard Fuchs (the spelling of whose surname ought to help those who have difficulty with the order of the letters in the generic name), a German physician and professor of medicine at the University of Tübingen from 1535 to 1566. He was the author of a number of botanical works, particularly the great herbal "De historia stirpium" published in 1542, a Latin work dealing with about 400 native German and 100 foreign plants. Agnes Arber in her "Herbals," page 60, 1912, writes "Of all the botanists of the Renaissance, Fuchs is perhaps the one who deserves most to be held in honor." She rates him as superior in scholarship, critical study of the nomenclature of classical authors, and in botanical illustration. She feels that in his work is reached "the high-water mark of that type of botanical drawing which seeks to express the individual character and habit of each species, treating the plant broadly as a whole, and not laying more stress upon the reproductive than the vegetative organs." It is no mean name that is perpetuated in *Fuchsia*.

On account of the great historical interest of Plumier's volume and its rarity, photographs of the title page, pages 14 and 15, containing the original description of the new genus *Fuchsia*, and plate 14 with its first published illustration are reproduced on Plate 16 of the present account.

In its fleshy fruit the genus *Fuchsia* differs from all other *Onagraceae*; in this respect and in possessing a corolloid calyx and colored hypanthium it constitutes a distinct tribe (Raimann, in Engler and Prantl, Die nat. Pflanzenfam. III, 7:219, 1898). I can see no very close relationship to any of the other genera in the family. *Fuchsia* is an immensely interesting group in the beauty and variety of its species, in the development of taxonomic differentiation, and in geographical distribution. In this paper I am recognizing about 100 species without attempting to go into horticultural and hybrid forms. I frankly admit that in many cases inadequate material or inaccessibility of types because of the present world conditions will undoubtedly make necessary a change of concept in the future. But the tremendous advantage that has been given to the North American student of South American plants by the great accumulation of photographs and fragments of types at the Field Museum through the long years of effort by J. Francis Macbride, now makes it possible to come to conclusions concerning species described long ago, which could not have been reached earlier without work in many European herbaria.

In the preparation of this paper I have had from time to time access to various herbaria in Europe and South America, as well as in the United States, and have more recently borrowed some or all of the specimens from a number



of the last named. To the curators of these institutions, to the John Simon Guggenheim Memorial Foundation which made possible the journey to South America, to Dr. Lyman B. Smith of Gray Herbarium for notes, and to my wife, Alice McCully Munz, who did extensive library work on *Fuchsia*, I hereby express my appreciation. I submit the following list of herbaria with the abbreviations which are used in the citation of specimens:

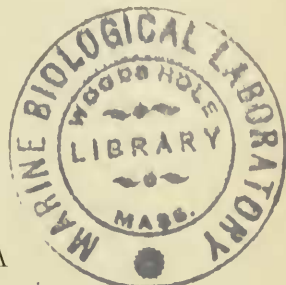
- Botanisches Museum, Berlin-Dahlem (B)
- Bishop Museum, Honolulu (BISH)
- Bailey Hortorium, Ithaca, N. Y. (BH)
- California Academy of Sciences, San Francisco (CAS)
- Field Museum, Chicago (F)
- Lillo Herbarium, Tucumán, Argentina (LIL)
- Gray Herbarium, Harvard University (GH)
- University of Michigan (MICH)
- Missouri Botanical Garden (MO)
- New York Botanical Garden (NY)
- Jardin des Plantes, Paris (P)
- Pomona College, Claremont, California (POM)
- Museu Nacional, Rio de Janeiro (R)
- Museo Nacional, Santiago, Chile (SGO)
- El Darwinión, San Isidro, Argentina (SI)
- São Paulo, Brazil (SP)
- United States National Herbarium (US)
- Dominion Museum, Wellington, New Zealand (WELT).

#### TAXONOMIC CHARACTERS IN THE GENUS FUCHSIA

For the most part the characters which I am using are the traditional ones: presence or absence of petals; proportions of the hypanthium; sepals erect, divergent, spreading or reflexed; leaves opposite, alternate or whorled; pubescence; flowers erect or not; stamens included or exerted; shape of berry; pubescence on style; shape of leaves; length of petioles, pedicels, etc.; position of flowers, whether solitary or axillary or in inflorescences; number of veins in leaves; color of various parts; stipules. Since the genus has never been keyed out nor anything like a complete treatment made of it, I have had to use pretty much my own judgment in choice of characters and have attempted to select such as could be seen with the least difficulty. All measurements and proportions have of course been taken from pressed specimens and this fact must be kept in mind if one tries to identify fresh material with my keys.

#### RELATIONSHIPS WITHIN THE GENUS

I should think the species included in the section *Quelusia* might be taken as the more primitive ones in the genus. The short hypanthium, erect stamens, many-seeded fruit, mostly spreading sepals seem characteristic onagraceous features. Of the several species, *F. magellanica* with its sepals quite free seems



primitive. The range of *Quclusia*, with *F. magellanica* in southern Argentina and Chile and with the other species occurring in the mountains of south-eastern Brazil, is an interesting one, and entirely different from all the rest of the genus. The Brazilian species have the sepals more or less connate at the base.

The section *Eufuchsia* is the most inclusive one in the genus. To me its most primitive species is *F. splendens* of Mexico, which seems near to *Quclusia* in its long exserted stamens, but has too long a hypanthium which is also peculiar in being very wide at the base. This species resembles more closely the section *Eufuchsia* than *Quclusia* in its large leaves. From it there can be arranged two series of species: one with long hypanthium, the second with shorter one. Both series run from solitary axillary flowers to well defined inflorescence. In the first series I would place nearest to *F. splendens* the Guatemalan *F. cordifolia*, in which the hypanthium has a broad base and the leaves are wide, but the hypanthium is longer and the stamens less exserted. From this through *F. austromontana* of Peru there can be derived a group with subcylindric hypanthium rather wide at the base, but with narrow petals: *F. denticulata*, *F. leptopoda*, *F. Woytkowskii*, and *F. magdalenae*. Another group with wider petals and somewhat less broad hypanthium-base, but continuing the subcylindric condition contains: *F. canescens*, *F. rivularis*, *F. loxensis*, *F. pallescens*, *F. Townsendii*, *F. platypetala*, and *F. macrostigma*. Then comes a series with more ampliate hypanthium and wide petals: *F. ayavacensis*, *F. Pringsheimii*, and *F. triphylla*; these have axillary flowers. With narrower petals and ampliate hypanthium and with flowers axillary or subterminal we have: *F. petiolaris*, *F. Smithii*, *F. Llewelynii*, *F. Asplundii*, *F. venusta*, *F. Jahni*, *F. Gehrigeri*, *F. simplicicaulis*, and *F. confertifolia*. With the hypanthium narrow and long, and with the flowers in a short, terminal, definite inflorescence and with leaves large, are: *F. Aspiazui*, *F. tineta*, *F. Mathewsii*, *F. Fischeri*, *F. Storkii*, *F. furfuracea*, *F. Munzii*, *F. hirtella*, *F. polyantha*, *F. corymbiflora*, *F. abrupta*, *F. Cuatrecasasii*, *F. Killipii*, *F. boliviana*, and possibly *F. fulgens*.

The other great series which I would derive from the *cordifolia* type has a short hypanthium. Here again one can begin with axillary flowers with rather wide hypanthium-base, such as in *F. decussata* and *F. hypoleuca*, and then go to species with a narrower base, such as *F. scabriuscula* and *F. verrucosa* and *F. sanctae-rosae*, this last named having either axillary flowers or almost terminal inflorescence. From it one passes very easily into a large group with definitely terminal inflorescence: *F. Osgoodii*, *F. Andrei*, *F. Lehmannii*, *F. putumayensis*, *F. Hartwegii*, *F. ovalis*, *F. asperifolia*, *F. pilosa*, *F. glaberrima*, *F. macrophylla*, *F. sessilifolia*, and *F. sylvatica*. These species of *Eufuchsia* are almost entirely Andean, excepting *F. splendens*, *F. cordifolia*, and *F. fulgens* of Mexico and Central America, and *F. triphylla* and *F. Pringsheimii* of the West Indies.

The section *Kierschlegeria* of Chile with its single species *F. lycioides* is an interesting xerophyte which must be related to *F. magellanica* in its short

hypanthium and small flowers. I should suppose too that the section *Skinnera* of New Zealand and Tahiti with small flowers and reflexed sepals is of similar relationship, that is to the Patagonian *magellanica*. In its reduced or even obsolete petals it becomes a very distinct group that must have been long isolated.

The same tendency to reduction or suppression of petals is seen in a long-tubed Andean series undoubtedly related to *Eufuchsia* rather than to *Quelusia* and for which I propose the section *Hemsleyella*. The species I have included here are doubtless not all of the same origin. In fact, I doubt that *F. cestroides* should be included with the others. They, in turn, are partly of the type with cylindrical hypanthium, for example, *F. macrantha* and *F. Garleppiana*, or with ampliate hypanthium as in *F. apetala*. In addition to the suppression of petals, specialization is evidenced by such features as union of sepals at their base, loss of leaves at anthesis, etc.

Perhaps the most highly specialized section is *Encliandra* which occurs from Panamá to central Mexico. Small-flowered, with small leaves, and the shorter series of stamens bent back into the hypanthium, this group also tends in varying degrees to polygamy. It has also relatively few seeds in the berry. It may be perhaps related to the section *Schufia* (with erect flowers in large compound inflorescence) of the same geographical area in its small flowers and relatively short hypanthium. Just how these two groups are related to the rest of the genus is not clear; perhaps the short hypanthium ties them in with the apparently rather primitive *Quelusia* which must have come from common stock with them.

### THE GENUS *Fuchsia* Linnaeus

*Fuchsia* L., Gen. Pl., ed. 1, 27, 1737; ed. 5, 126, 1754; Sp. Pl., ed. 1, 1191, 1753. ENDLICHER, Genera Pl., 1193, 1840. BENTH. and HOOK., Gen. Pl., 1, part 3: 790, 1862. RAIMANN in Engler and Prantl, Die nat. Pflanzenfam., III, 7:219, 1898.

Hypanthium prolonged beyond the ovary, usually colored, deciduous in fruit. Sepals 4, usually colored, deciduous. Petals 4, or minute, or 0, convolute or spreading, deciduous. Stamens 8, usually unequal, the episealous exceeding the epipetalous; filaments more or less filiform; anthers linear to oblong. Pollen grains single, 2- or 3-angled. Ovary 4-loculed; style elongate; stigma capitate or clavate, subentire to 4-lobed. Suffrutescent to arboreous. Leaves opposite to alternate or whorled, with small usually deciduous stipules. Flowers solitary in the axils or racemose or paniculate, mostly pendulous and long-pedicelled, generally showy; perfect to polygamous.

Type species, *F. triphylla* L.

### KEY TO SECTIONS OF FUCHSIA

- A. Petals lacking or reduced to small scalelike structures; leaves tending to be alternate.
- B. Hypanthium infundibuliform, not more than 1.5 cm. long; sepals reflexed, separate.
  - New Zealand and Tahiti . . . . . 4. *Skinnera*.

- BB. Hypanthium tubular to funnellform, mostly more than 2 cm. long; sepals divergent to suberect, more or less connate at base. South America. . . . . 5. *Hemslcyella*.
- AA. Petals present, almost or quite as long as sepals; leaves mostly opposite or whorled.
  - B. Leaves with a thickened persistent petiole-like base which becomes spine-like; sepals reflexed; flowers small. Chile. . . . . 3. *Kierschlegeria*.
  - BB. Leaf-bases not persisting as spine-like structures.
    - C. Flowers erect in terminal cymose panicles arranged subtrichotomously. Mexico to Panamá. . . . . 6. *Schufa*.
    - CC. Flowers mostly pendulous, not in cymes.
      - D. Flowers tending toward polygamy, small, inconspicuous; stamens short, the epipetalous reflexed; berry few-seeded. Mexico to Panamá.
        - 7. *Encliandra*.
    - DD. Flowers perfect, usually showy; stamens more or less exerted, erect; berry many-seeded. Mostly South American species.
      - E. Hypanthium usually not longer than the sepals; stamens long-exserted. Eastern Brazil to Patagonia. . . . . 1. *Quelusia*.
      - EE. Hypanthium several times as long as sepals; stamens not much exceeding sepals. Andes north of central Argentina to Mexico and West Indies. . . . . 2. *Eufuchsia*.

SECTION 1. QUELUSIA (Vand.) DC.

*Quelusia* as genus, VANDELI, Fl. Lusit., 23, pl. 10, 1788; and in ROEM., Script. Hisp. Lusit., 101, 1796.

*Nahusia* SCHNEEV., Ic., 27, 1793.

*Thilcum* MOLINA, Sagg. Chile, ed. 2, 146, 1810.

*Quelusia* as sect., DECANDOLLE, Prodr., 3:36, 1826.

Nectary fused to base of hypanthium; hypanthium cylindric, usually no longer than sepals; stamens long, exerted.

Type species: Vandeli described the genus without naming a species. De Candolle has *F. coccinea* under *Quelusia*, as well as other species; he included *F. magellanica* as a synonym of *F. coccinea*. Since Vandeli referred to petioled leaves, he evidently had in mind *F. magellanica* Lam., and I would make it the type species.

KEY TO SPECIES OF SECTION QUELUSIA.

- A. Hypanthium short, 3-6 mm. long; younger branches pubescent to pilose.
  - B. Leaf-blades 4-10 cm. long, 2-4 cm. wide, quite entire. . . . 6. *F. regia* var. *alpestris*.
  - BB. Leaf-blades 1.5-5 cm. long, 0.3-2 (2.5) cm. wide, mostly serrulate.
    - C. Young growth strigulose; leaves mostly less than 6 mm. wide, coriaceous. Itatiaya, Brazil. . . . . 1. *F. Campos-Portoi*.
  - CC. Young growth puberulent to pilose; leaves mostly more than 6 mm. wide, membranous.
    - D. Suffrutescent, with herbaceous stems 2-5 dm. tall; pedicels 1-2 cm. long; stems very densely shaggy-pilose. Espiritu Santo, Brazil. 2. *F. Braecklinae*.
    - DD. Well developed shrub, 1-3 m. tall; pedicels 2-4 cm. long; stems puberulent to somewhat pilose. Minas Geraes, Brazil. . . . . 4. *F. coccinea*.
- AA. Hypanthium longer, mostly 8-20 mm. long; younger branches usually glabrous or nearly so.
  - B. Leaf-blades subentire, 4-10 cm. long, 2-4 cm. wide; sepals connate at base for 2-15 mm. So. Brazil. . . . . 6. *F. regia*.
  - BB. Leaf-blades serrulate, 1-5 cm. long; sepals mostly free.



- C. Petioles mostly 3–10 mm. long; hypanthium 8–10 (12) mm. long; sepals 15–25 mm. long, 3–4 mm. wide. So. Chile and So. Argentina. . . . .3. *F. magellanica*.
- CC. Petioles mostly 10–25 mm. long; hypanthium 10–20 (or more) mm. long; sepals 25–30 mm. long, 8–11 mm. wide. Gardens; naturalized as in Colombia, Venezuela. . . . .5. *F. hybrida*.

(1) **Fuchsia Campos-Portoi** Pilger and Schulze

(Plate 1, fig. 1)

*Fuchsia Campos-Portoi* PILGER and SCHULZE, Notizblatt, 12:470, 1935.

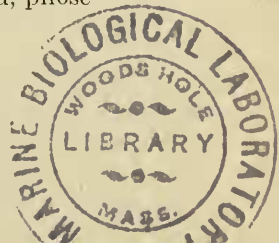
Shrub, with woody ascending or divaricate branches, the younger ones very slender, strigulose, more or less reddish; leaves opposite or ternate or quaternate, elliptic-lanceolate, acute at both ends, plainly serrulate with incurved, gland-tipped teeth, coriaceous, strongly bicolorous, glabrous above or strigulose on midrib, strigulose beneath especially on midrib and margins, lateral veins inconspicuous, about 5 on each side of midrib; blades 1.5–2.5 (3) cm. long, 3–5 (8) mm. wide; petioles 2–3 (4) mm. long, puberulent; stipules subulate, 0.5 mm. long, deciduous; flowers solitary in upper axils; pedicels filiform, strigulose, 4–15 mm. long; ovary 4–5 mm. long; hypanthium red, broadly fusiform, 4–5 mm. long, sparsely strigulose without, glabrous within; sepals red, somewhat strigulose, oblong-lanceolate, acuminate, 18–20 mm. long, 4–6 mm. wide, connate for 2–3.5 mm. at base; petals violet, obovate-cuneate, slightly emarginate, 10–12 mm. long; episepalous stamens 20–25 mm. long, alternate ones slightly shorter; anthers 1.5 mm. long; style glabrous, ca. 3 cm. long; stigma subentire, ca. 2 mm. long; fruit ellipsoid, ca. 1 cm. long.

From Itatiaia, Serra da Mantiqueira, state of Rio de Janeiro, Brazil, where it grows at 2100–2300 m. alt. Material seen, *Pilger and Brade 31*, type coll. Dec. 27, 1934 (POM, R), *Brade 15676*, March, 1934 (POM, R), *Loefgren 5775*, March 13, 1903 (POM, SP). I am greatly indebted to Dr. Brade of the Botanical Garden at Rio de Janeiro for information concerning and material of this species. The species is characterized by its narrow leaves, woody habit, strigulose younger growth, and fascicled appearance of the short branches.

(2) **Fuchsia Bracelinae** Munz, new species

(Plate 1, fig. 2)

Suffrutescent, with running underground rootstock and erect, rather simple stems 2–5 dm. tall, woody and with exfoliating epidermis at base; stems herbaceous, apparently reddish and densely pilose with light-colored hairs up to 1 mm. long; leaves opposite, in 3's or 4's, ovate-lanceolate, green and somewhat strigose above, paler, reddish and pilose beneath especially on veins, rounded at base, acute-acuminate at apex, subentire to denticulate, membranaceous, distinctly veined (main laterals 6–8 on each side of midrib); blades 2–5 cm. long, 5–14 mm. wide; petioles 1–3 mm. long, villous; stipules lance-deltoid, 0.5–1.5 mm. long, deciduous; flowers axillary; pedicels pilose, filiform, 1–2 cm. long; ovary oblong, pilose, 5 mm. long; hypanthium dark red, pilose





without, glabrous within, 3.5–5 mm. long, 2–2.5 mm. wide at slightly expanded summit; sepals rose, 19–23 mm. long, sparsely pilose, connate at base for 3–4 mm., then erect-divergent, lance-oblong or -elliptic, subacuminate, 5–6 mm. wide, 3-veined; petals purple, obovate, 11–15 mm. long, rounded apically; episepalous stamens up to 3 cm. long, epipetalous ca. 3 mm. shorter; filaments reddish; anthers less than 2 mm. long, reddish; style reddish, up to 3.5 cm. long, glabrous; stigma slightly lobed, narrow, 1.5 mm. long; immature fruit oblong, 8 mm. long, 4 mm. wide.

Suffrutescens; caulibus erectis, 2–5 dm. altis, herbaceis, pilosis; foliis oppositis, ternatis aut quaternatis, ovato-lanceolatis, in superficie superiore strigosis, inferiore pilosis, base rotundatis, apice acuto-acuminatis, subintegris vel denticulatis; laminis 2–5 cm. longis, 0.5–1.4 cm. latis; petiolis villosis, 1–3 mm. longis; pedicellis axillaribus, pilosis, filiformibus, 1–2 cm. longis; ovario oblongo, piloso, 5 mm. longo; hypanthio 3.5–5 mm. longo, supra 2–2.5 mm. lato, externe piloso, interne glabro; sepalis roseis, 19–23 mm. longis, sparse pilosis, lanceolato-oblongis aut -ellipticis, subacuminatis, 5–6 mm. latis; petalis purpureis, obovatis, 11–15 mm. longis; staminibus 2.5–3 cm. longis, rubris; stylo glabro, 3–3.5 cm. longo; bacca oblonga, 8 mm. longa, 4 mm. lata.

Type: from rocky, open campo, Serra de Caparáo, State of Espiritu Santo, Brazil, Nov. 25, 1929, at 2650 m., *Ynez Mexia 4013*, Gray Herb., isotypes (CAS, NY, US); distributed as *F. pubescens*. Distinct from *F. Campos-Portoi* and *F. coccinea* in its more herbaceous habit; from the former by its broader thinner leaves and more hair; from the latter by its narrower leaves. It is a pleasure to dedicate this species to Mrs. H. P. Bracelin of Berkeley, California, who has devoted much time and energy to distributing the large collections made in Latin America by Mrs. Mexia.

### (3) *Fuchsia magellanica* Lam.

*Fuchsia magellanica* LAM., Eneycl., 2:565, 1788 ? (cf. Kuntze, Rev. Gen. Pl., 1:cxxxii, 1891); pl. 232, fig. 2, 1793.

Shrub up to 2.5 m. tall, bushy or semiscandent, freely branched, the ultimate branchlets very slender (ca. 1 mm. thick), usually reddish, glabrous to finely and sparsely puberulent, especially about the nodes, older ones exfoliating; leaves opposite or ternate, sometimes alternate, usually rather crowded, the blades lance-ovate to rhombic-ovate to elliptic-ovate, rounded or more frequently somewhat cuneate at the base, acute to acuminate at the apex, usually evidently serrulate, more or less reddish on veins, paler beneath than above, glabrous to puberulent on margins and veins of under surface, 15–50 mm. long, 4–20 mm. wide, with 5–7 principal veins on each side of midrib; petioles 3–10 (15) mm. long, glabrous to puberulent; stipules lance-deltoid, barely 1 mm. long, deciduous; flowers 1 or 2 in upper axils; pedicels filiform, 2–5.5 cm. long, glabrous to puberulent; ovary oblong-fusiform, 6–10 (12) mm. long, 1.5–2.5 mm. wide; hypanthium tubular, 8–10 (12) mm. long, glabrous or nearly so without, pubescent within; sepals narrowly lance-oblong, 15–25 mm. long, 3–4 (5) mm. wide, acuminate, mostly glabrous; petals obovate, 1–2 cm. long; longer stamens 2–3.5 cm. long, epipetalous 4–6 mm. shorter; filaments filiform,

glabrous; anthers 2–2.5 mm. long; style slender, pubescent at base, mostly 3–5 cm. long; stigma capitate, more or less lobed, 1.5–3 mm. long; berry oblong, 1–2 cm. long, 4–5 mm. wide.

This species is exceedingly variable, with a nomenclature much complicated by long culture in the garden and much hybridization. Many segregates have been proposed and many attempts have been made to classify such (cf. Philippi, Bot. Zeit., 34:577, 1876; Bailey, Cyclop. Am. Hort., 3:1301, 1915, for examples). In the study of wild plants the most that I can observe is: (1) a tendency for larger flowers, larger thinner leaves, and longer pedicels in the more northern material, (2) opposite tendency in more southern material and (3) a possible less highly colored variety described by Prof. Espinoza. The complication involving hybridization with *F. coccinea* and other species cannot be discussed here.

#### KEY TO VARIETIES OF *Fuchsia magellanica*

- A. Hypanthium and sepals deep red; ovary and pedicels red.  
 B. Leaf-blades mostly 15–25 mm. long; pedicels 20–35 mm. long. . . . . 3a. var. *typica*.  
 BB. Leaf-blades mostly 25–50 mm. long; pedicels 40–55 mm. long. 3b. var. *macrostema*.  
 AA. Hypanthium and sepals pink; ovary and pedicels green. . . . . 3c. var. *Molinae*.

#### (3a) *Fuchsia magellanica* Lam. var. *typica* Munz, new name

(Plate 1, fig. 3)

- F. magellanica* LAM., Encycl., 2:565, 1788; pl. 282, fig. 2, 1793.  
*F. gracilis* var. *multiflora* LINDL., Bot. Reg., 13:pl. 1052, 1827.  
*F. gracilis* var. *tenella* LINDL., l.c.; *F. macrostema* var. *tenella* DC., Prodr., 3:38, 1828; *F. tenella* Hort., G. DON in Loud., Hort. Brit., 155, 1830.  
*F. conica* LINDL., Bot. Reg., 13:pl. 1062, 1827; *F. macrostema* var. *conica* SWEET, Brit. Fl. Garden, 6: under pl. 216, 1833; *F. magellanica* var. *conica* BAILEY, Cyclop. Am. Hort., 614, 1900.  
 ? *F. multiflora* LODD., Bot. Cab., 15:pl. 1415, 1828.  
*F. discolor* LINDL., Bot. Reg., 21:pl. 1805, 1835; *F. magellanica* var. *discolor* BAILEY, Cyclop. Am. Hort., 614, 1900.  
*F. coccinea* var. *robustior* HOOK., Fl. Ant., 2:269, 1847; based on Commerson coll. in Strait of Magalhaens.  
*F. chonotica* PHIL., Linnaea, 28:687, 1856; Bot. Zeit., 34:577, figs. 4 and 5, 1876; *F. coccinea* var. *chonotica* REICHE, Anal. Univ. Chile, 98:485, 1897; Fl. Chile, 2:267, 1898.  
*F. araucana* PHIL., Bot. Zeit., 34:577, fig. 6, 1876.  
*Dorvalia eucharis* COMM. ex Lam., Encycl., 2:565, 1788.

Leaf-blades mostly 15–25 mm. long, 4–10 (12) mm. wide, somewhat coriaceous, often folded along the midrib; pedicels mostly 2–3.5 cm. long, red; hypanthium and sepals deep red; sepals 1.5–2 cm. long; petals purplish; stamens 2–3 cm. long, reddish.

Type locality, "Commerson a observé cet arbrisseau sur les montagnes du Magellan, dans presque tous les bois, en Janvier 1768." The range of this variety is in Chile mostly south of Concepción, and in Argentina. Representative material, "*F. magellanica* Lam. det. Dorvalia Commerson herb." Lamarek Herb. (P); *F. multiflora*, cult. hortul. Girod. Geneva, in 1837 (NY); *F.*

*discolor*, H. B. Glasgow in 1850 (NY); *F. tenella*, cult. Lochowitz in 1845 (F). CHILE: Concepción: San Vicente, *Pennell 12866* (GH). Arauco: Isl. of St. Mary's, *Eights* (US). Malleco: Angol, *Kuntze in 1892* (F). Valdivia: Corral, *Gunckel 2* (F); Cerro de la Marina, *Gunckel 5064* (POM); Valdivia, *Buchtien in 1896* (GH); Panguipulli, Hollermayer under *Werdermeyer 1364* (CAS, F, GH, NY, US). Llanquihue: Ancud, Chiloé, *Pennell 12492* (F, GH); Isla Chiloé, near Castro, *Mexia 8009* (F, GH, NY, US); Isla Chiloé, *Ruiz* (POM); Peulla, *Pennell 12675* (F, GH, NY). ARGENTINA: Neuquen: Puerto Meyer, *Cabrera and Job 210* (NY). Río Negro: Lago Nahuelhuapi, *Ljungner 226* (NY). Patagonia: Port Otway, *Lee in 1888* (US); Hassler Glacier, *Hill in 1872* (GH); Eden Harbor, *Blake in 1872* (GH).

Intergrades with var. *macrostema* are many, for example, with large leaves: Valparaiso, *Wilkes Exped.* (GH, NY, US); road from Curicó, Chile to Argentina, beyond Los Queñes, *Mexia 7863* (F, GH, NY, US); Hualqui, Concepción, *Kuntze in 1892* (NY); Aysen, Llanquihue, *Moreira in 1934* (POM); Isla Victoria, Lago N. Huapi, Argentina, *Burkart 6397* (F); Lake Argentina, Santa Cruz, *Furlong 98* (GH, NY, US). Other intergrades in length of pedicels, etc., are: Casa Panque, Llanquihue, Chile, *Shannon 25* (US); Camino de Bariloche al Correntoso, Argentina, *Cabrera 5044* (F, GH, NY).

(3b) *Fuchsia magellanica* Lam. var. *macrostema* (R. and P.) Munz, new comb.

*F. macrostema* R. and P., Fl. Peruv. 3:88, pl. 324, fig. b, 1802.

*F. gracilis* var. *macrostema* LINDL., Bot. Reg., 13: under pl. 1052, 1827.

*F. coccinea* var. *macrostema* HOOK., Fl. Ant., 2:269, 1847.

*F. coccinea* CURTIS, Bot. Mag., 1:pl. 97, 1789, not Ait.

*F. decussata* R. GRAH., Edinb. Phil. Journ., 11:206 and 401, 1824; SIMS in Bot. Mag., 51: pl. 2507, 1824, not R. and P., 1802.

*F. gracilis* LINDL., Bot. Reg., 10:pl. 847, 1824, new name for Graham *F. macrostemma* var. *gracilis* SWEET, Brit. Fl. Gard., 6: under pl. 216, 1833 plant (*decussata*); *F. magellanica* var. *gracilis* BAILEY, Cyclop. Am. Hort., 614, 1900.

*F. macrostema* var. *recurvata* HOOK., Bot. Mag., 63:3521, 1836; *F. recurvata* NIVEN ex Hook., l.c.

*Thilcum tinctorium* MOLINA, Sagg. Chile, ed. 2, 146, 1810.

Leaf-blades mostly 25–50 mm. long, 10–20 mm. wide, membranaceous; pedicels mostly 4–5.5 cm. long, red; hypanthium and sepals red; sepals 19–23 mm. long; petals purplish; stamens 30–35 mm. long, reddish.

Type locality, "Habitat in *Concepcionis Chile* locis uliginosis, praesertim in *Quebrada de Caramo*." Ranging mostly in Chile from Aconcagua to Concepción. Representative material, without locality, *F. macrostemma*, *Gay 77*, Herb. Mus. Paris (F). CHILE: Aconcagua: 15 km. south of Valparaiso, *West 3980* (GH). Santiago: Cordillera de Peñalolen, *Looser 2299* (POM); Santiago, *Bro. Claude-Joseph 531* (NY, US). O'Higgins: Monte la Leona, Rancagua, *Bertero 280* (GH, NY). Curicó: Cordillera Peteroa-Planehoa, Cañon Río Claro, *Mexia 04406* (GH). Ñuble: Baños de Chillan, *Pennell 12473* (F, GH, US). Concepción: Taleahuano, *C. and I. Skottsberg 1454* (NY); presumably from Quebrada de Caramo, *Ruiz and Paron*, as *macrostema*, Madrid Herb.

(photo F, POM). Bio Bio: Pailahueque, *Padre Pivian 201* (GH). Cautin: Hotel Tolhuaca on road to Baños Calientes, *Morrison and Fagenknecht 17499* (GH). Magallanes: Port Famine, *Lce in 1888* (F, US); Eberhard, *Donat in 1931* (CAS, GH, NY). ARGENTINA: Terr. del Neuquen: Puerto Blest, *Bruch in 1898* (NY).

Intergrades have been discussed under var. *typica*.

(3c) **Fuchsia magellanica** Lam. var. **Molinae** Espinosa

*Fuchsia magellanica* LAM. var. *Molinae* ESPINOSA, Bol. Mus. Nac. Chile, 12:102, 1929.

Pedicels and ovaries greenish; hypanthium, sepals and stamens and style pink; corolla lilac-pink.

Type locality, CHILE: Prov. Llanquihue: Isla Chiloé, near Castro, Quebrada de La Chacra, type coll. by *Espinosa, Jan. 31, 1929* (SGO). Another collection seen from Isla Chiloé: *F. Flaminio Ruiz* (POM). Valdivia: Corral, *West 4846* (GH), *Gunckel 2133* (GH). Cultivated at Valparaiso, *Goodspeed 4589* (GH). There is some question as to whether this is a natural entity or a cultivated one, but it seems to be the former.

(4) **Fuchsia coccinea** Soland.

(Plate 1, fig. 4)

*Fuchsia coccinea* SOLAND. in Aiton, Hort. Kew., ed. 1, 2:8, 1789.

*F. coccinea* J. D. HOOKER, Bot. Mag., 94:pl. 5740, 1868.

*Nahusia coccinea* SCHNEEVOGT, Icones, 21, 1793.

*Skinnera coccinea* MOENCH, Meth. Suppl., 270, 1802.

*Fuchsia elegans* SALISBURY, Ic. Stirp. Rar., 13, pl. 7, 1791; said to come from Brazil.

*F. pendula* SALISBURY, Prodr., 279, 1796; cites plate and page in Stirp. for *elegans*.

*F. pubescens* CAMBESS., in St. Hil., Fl. Bras. Merid., 2:275, pl. 134, 1829.

*F. montana* CAMBESS., l.c., pl. 135.

*F. Glazioviana* TAUB., Bot. Jahrb. 15, Beibl., 34:16, 1892.

Shrub, bushy and up to 1 m. tall, or semiscandent and 3 or more m. tall; freely branched, the younger twigs very slender, scarcely 1 mm. thick, subterete, densely puberulent, sometimes also pilose, more or less reddish; leaves opposite or in 3's, membranaceous, narrow-ovate, paler beneath, puberulent above and beneath, often also pilose beneath along main veins, rounded to cordate at base, subacuminate at apex, usually plainly serrulate, the blades with 4-6 main veins on each side of midrib, 15-45 (60) mm. long, 10-20 (25) mm. wide; petioles mostly 1-3 mm. long, frequently pilose; stipules lance-deltoid, less than 1 mm. long, often reflexed, caducous; flowers solitary in upper axils; pedicels filiform, puberulent, sometimes scattered-pilose, 2-4 cm. long; ovary oblong; hypanthium red, subfusiform-tubular, glandular-puberulent without, sometimes with few long hairs, pubescent within, 4-6 mm. long, ca. 3 mm. wide; sepals red, glandular-puberulent, oblong-linear to lanceolate, acuminate, 15-20 mm. long, connate at base for 3-6 mm.; petals violet to purplish, obovate, 6-9 mm. long; episepalous stamens 15-30 mm. long; epipetalous 2-5 mm. shorter; anthers reddish, ca. 2 mm. long; style pubescent at



base, 2–4 cm. long; stigma subentire, reddish, 1.5 mm. long; berry mostly oblong, about 1 cm. long.

Type locality: Hooker (Bot. Mag. pl. 5740) says: "The native country of the true *coccinea* is unknown; it is probably Brazilian, as it resembles the Brazilian more than the Western or Southern American species; Salisbury says it was introduced by Vandeli from Brazil, whereas Aiton attributes its introduction to Captain Frith, from Chile.

"The evidence of the plant here figured being the true and original plant of Aiton's 'Hortus Kewensis,' ed. 1, rests on the fact that named specimens of the same are preserved in the Banksian Herbarium of the British Museum, and in Sir J. Smith's Herbarium at the Linnean Society, all procured at Kew in the year of the introduction of the plant, and at the date of its being described by Aiton."

It takes some courage to apply the name *coccinea* to the Brazilian plant commonly passing as *pubescens* or *montana*, but I see no alternative. These are the only *Fuchsias* which I can find that agree with all that Hooker says above and with specimens seen. Material seen, WITHOUT LOCALITY: *F. coccinea*, *Herb. Steud.* (NY), *Meisner Herb.* (NY), *Hort. Kew. M. Ait.* (G). BRAZIL: So. Brazil, *Glaziou 17614*, *F. Glazioviana* (fragment from Berlin and photograph at F, photograph at POM); without locality, *F. pubescens* Camb., *St. Hil. C<sup>2</sup> 1545*, fragment from Mus. Paris (F). Minas Geraes: *F. montana* Camb., *St. Hilaire*, fragment from Mus. Paris, must be from Serra da Caraça. (F); Serra da Piedade, Município de Caeté, *Barreto 7160* (F), *8803* (F), *7162* (F), *7158* (F); Serra da Piedade, *Hoehne 6278* (POM), *6281* (POM). There is every intergradation from being merely puberulent as in the St. Hilaire specimen of *montana*, through having some longer hairs at the base of the midrib, as in St. Hilaire collection of *pubescens*, *Hoehne 6278*, *6281*, *Barreto 7160*, *7162*, *8803*, to being pilose on the stems: *Barreto 7158*, garden specimens from *Herb. Steudel*, etc. The species has been naturalized in some places as in Jamaica: *Cinchona, Nichols 60* (F, GH), *Harris 9130* (F) and Greenhill, *Harris in 1899* (F).

#### (5) *Fuchsia hybrida* Hort.

*Fuchsia hybrida* Hort. ex. Vilmorin, *Blumeng.*, ed. 3, Sieb. and Voss, 1:332, 1894; BEHRENS, *Blattenformen*, pl. 71, fig. d, e, f, 1900.

*F. speciosa* Hort. ex Bailey, *Cyclop. Amer. Hort.*, 614–615, 1900.

Sturdy, with twigs usually reddish; leaves opposite, broadly ovate to oblong-ovate, rounded to cordate at base, apically acute, strongly serrulate, 3–5 cm. long, 1.5–3 cm. wide; petioles mostly 1–2 cm. long; pedicels commonly 4–5 cm. long; ovary ovoid, 6–8 mm. long, 4–5 mm. wide; hypanthium 1–2 or more cm. long, 4–6 mm. wide; sepals 2.5–3 cm. long, 8–11 mm. wide; petals 1–2 cm. long; stamens included to exerted; style 4–5 or more cm. long; stigma 3–4 mm. wide.

Many many strains of the garden fuchsias, which are almost universally



hybrid, are described more or less accurately by the above and are said by Bailey (Hortus, 264, 1930) to be "probably of hybrid derivation from forms of *F. magellanica* and *F. fulgens*."

(6) ***Fuchsia regia*** (Vand.) Munz, new comb.

*Quelusia regia* VAND. ex Vell., Fl. Flum., 149, 1825 and 4: pl. 6, 1827.

Semiscandent shrub up to 6 m. tall, freely branched, the ultimate branchlets slender, 1–2 mm. thick, flexuous, angled, dark red, glabrous to puberulent to pilose; leaves opposite or in 3's, oblong-ovate, entire to remotely and inconspicuously denticulate, coriaceous, rounded at base, more or less abruptly acuminate at apex (this usually not in same plane as rest of blade and somewhat folded in pressed specimens), glabrous to puberulent or pilose, often reddish on veins; blades mostly 4–10 cm. long, 2–4 cm. wide, with 5–7 main veins on each side of midrib; petioles 5–10 mm. long; stipules deltoid, about 0.5 mm. long, deciduous; flowers solitary in upper axils; pedicels almost filiform, 2–4.5 cm. long, glabrous to pubescent; ovary oblong; hypanthium deep red, cylindrical, slightly enlarged toward apex, sometimes somewhat fusiform, 3–15 mm. long, 3–5 mm. wide, glabrous to pilose without and within; calyx red, glabrous to somewhat pilose, 13–35 mm. long, 4-lobed, the segments connate for 2–15 mm., the free segments lanceolate, spreading, 10–25 (30) mm. long, acuminate; petals purplish, obovate, obtuse, 10–15 (18) mm. long; episepalous stamens 20–35 (40) mm. long, epipetalous 16–30 (35) mm. long; anthers red, 2.5–3.5 mm. long; style somewhat pubescent at base, 3.5–5.5 (7.5) cm. long; stigma yellowish, or reddish, capitate, subentire, 2.5–3.5 mm. long; berry oblong or more spherical, 1.5–2.5 cm. long.

The name *regia* is based on a plate, which shows large leaves and flowers and a fusiform hypanthium, sepals connate a short distance. This combination of characters and the locality can mean only one thing: the species which has been called *F. integrifolia*. It is fair to admit that the plate shows the leaves more dentate than one would like.

KEY TO VARIETIES OF *Fuchsia regia*

- A. Young twigs shaggy-pilose; hypanthium 3–6 mm. long; calyx (united plus free portions) 13–21 mm. long.....6d. var. *alpestris*.
- AA. Young twigs not pilose; hypanthium 7–15 mm. long; calyx 20–35 mm. long.
  - B. Young twigs densely and closely puberulent; connate portion of calyx 9–15 mm. long. ....6c. var. *affinis*.
  - BB. Young twigs essentially glabrous.
    - C. Connate base of calyx 2–5 mm. long; free segments 18–30 mm. long. ....6a. var. *typica*.
    - CC. Connate base of calyx 9–14 mm. long; free segments 12–20 mm. long. ....6b. var. *radicans*.

(6a) ***Fuchsia regia*** (Vand.) Munz var. ***typica*** Munz, new name

(Plate 1, fig. 5)

*Quelusia regia* VAND. ex Vell., l.c.

*Fuchsia integrifolia* CAMBESS., in St. Hilaire, Fl. Bras. Merid., 2:273, 1829; Bot. Mag., 68: pl. 3948, 1842; MICHELI in Martius, Fl. Bras. 13, pt. 2:174, pl. 37, 1875.

Glabrous except sometimes slightly and minutely puberulent about the young growth; pedicels 3–4.5 cm. long; hypanthium 7–15 mm. long; calyx 24–35 mm. long, connate at base for 2–5 mm., free portion 18–30 mm. long.

Type locality, “ad Alpes Pharmacopolitanas fruticetis, per quae ad oppidum Cunha iter fit,” hence near the western end of the state of Rio de Janeiro, Brazil. Ranging through the mountains of the states of Rio and Minas Geraes. Material seen, BRAZIL: without locality, *Burchell 2196* (GH), *Riedel in 1816* (GH), *Gardner 375* (NY). Minas Geraes: Ouro Prieto, *Cochran 29191* (US); Districto Carangola, trail to Areponga, *Mexia 4326* (F, CAS, GH, NY, US); top of Serra da Gramma, *Mexia 4278* (F, GH, NY, US); Caldas, *Claussen in 1840* (GH), *Regnell in 1878* (NY, US); Serra do Cipó, *Barreto 9254* (F); Serra do Caraça, *Barreto 7157* (F). Rio de Janeiro: Maceirras, Mt. Itatiaya, *L. B. Smith 1476* (GH); near Rio de Janeiro, *Wilkes Exped. in 1838–42* (NY); Organ Mts., *Wilkes Exped.* (US).

Since this is the most common form of the species and is in the Organ Mts. and since the original plate shows sepals slightly connate and does not show hair, I have to assume that this is typical *regia*.

(6b) *Fuchsia regia* (Vand.) Munz var. *radicans* (Miers) Munz, new comb.

*F. radicans* MIERS in Bot. Reg., 27: Misc. no. 167, and pl. 66, 1841.

*F. pyrifolia* PRESL, Symbol. bot., 2:19, pl. 65, 1858.

Glabrous throughout; pedicels 2–3 cm. long; hypanthium 9–11 mm. long; calyx 24–34 mm. long, connate at base for 9–14 mm., then free for 12–20 mm.

Type locality, Organ Mts., Rio de Janeiro, Brazil. Material seen, BRAZIL: Rio de Janeiro: Organ Mts., *Miers 4453*, Feb., 1838 (US); Serra do Itatiaia: Retiro, *Dusén 81* (GH, US). Paraná: Serra do Mar, Desvio Ypiranga, *Dusén 6766* (GH).

(6c) *Fuchsia regia* (Vand.) Munz var. *affinis* (Camb.) Munz, new comb.

*F. affinis* CAMBESS., in St. Hilaire, Fl. Bras. Merid., 2:274, 1829.

Young twigs densely and closely puberulent (leaves may be somewhat pilose on under surface along veins); pedicels 2–4 cm. long; hypanthium 8–10 (13) mm. long; calyx 20–30 mm. long, connate at base for 9–15 mm., then free for 10–20 mm.

Type locality, Serra da Boa Vista, Rio de Janeiro, Brazil. Material seen from the states of São Paulo and Paraná. BRAZIL: without locality, *St. Hilaire 22*, ex Herb. Mus. Paris (F). São Paulo: Alto da Serra, at about 900 m., *L. B. Smith 1900* (F, GH), *Munz 15415* (F, NY, POM, US); Est. Campo Grande, *Edwall 1957* (POM). Paraná: Curitiba, *Hoehne in 1928* (POM), *Dusén 14362* (F, GH, NY). A collection from Horto Botânico Cantareira, *Puttemans 204* (P) has the puberulence of *affinis* and the flower of *typica*.

(6d) *Fuchsia regia* (Vand.) Munz var. *alpestris* (Gardner) Munz, new comb.

*F. alpestris* GARDNER, Bot. Mag., 69: pl. 3999, 1843.

*F. mollis* KRAUSE, Engl. Jahrb., 37:600, 1906.

Young twigs densely shaggy-pilose; pedicels 2.5–4.5 cm. long; hypanthium 3–6 mm. long, glandular-pubescent and more or less pilose; calyx 13–21 mm. long, connate at base for 2–6 mm., then free for 10–19 mm.

Type locality, Organ Mts., Rio de Janeiro, Brazil. Material seen; without locality, H. B. Glasgow, *F. alpestris*, Sept., 1850 (NY). BRAZIL: Minas Geraes: Serra do Itacolomy, Municipio de Ouro, *Barreto 9168* (F); Itacolomi, Ouro Preto, *de Vasconcellos in 1901* (POM). Rio de Janeiro: bet. Petropolis and Theresopolis, *Princess Therese von Bayern* in Herb. Monacense (photos F, GH, POM); Organ Mts., *Gardner 5706*, type coll. *alpestris* (NY), Nova Friburgo, *Ule 4418*, labelled *F. integrifolia* var. *mollis*, a name seeming not to have been published, specimen at Rio and Berlin (photo F, POM). Paraná: Porto de Cima, *Dusén 14133* (US). This entity approaches *F. coccinea* in becoming dentate, but the pilosity is more dense, the leaves usually larger. *Barreto 9168* is quite like *regia typica*, but more toothed.

### SECTION 2. EUFUCHSIA Baillon.

*Eufuchsia* BAILL., Hist. Pl., 6:467, 1877; RAIMANN in Engler and Prantl, Die nat. Pflanzenfam., III, 7:219, 1893.

*Fuchsia*, as genus, L., Gen. Pl., ed. 5, 126, 1754; SPACH, Nouv. Ann. Sci. Nat., (2), 4:177, 1835; as section, ENDLICHER, Gen. Pl., 1193, 1840.

*Ellobium* LILJA, Linnaea, 15:262, 1841.

Flowers perfect; petals convolute. Stamens erect, somewhat exerted or not, those opposite the petals shorter. Fruit many-seeded. Leaves opposite or whorled.

Type species, *F. triphylla* L.

#### KEY TO SPECIES OF SECTION EUFUCHSIA

A. Flowers axillary, that is borne in axils of ordinary or somewhat reduced foliage leaves.

B. Hypanthium 3–30 mm. long.

C. Hypanthium 3–5 mm. long, shorter than the ovary; young twigs subglabrous.

Colombia. . . . . 51. *F. verrucosa*.

CC. Hypanthium 12–30 mm. long, longer than ovary.

D. Younger twigs, pedicels, etc., essentially glabrous (sometimes somewhat pilose about nodes); leaves mostly glabrous except sometimes along veins of under surface.

E. Petioles 5–20 mm. long; sepals scarlet. S. Peru to Bolivia.

52. *F. sanctae-rosae*.

EE. Petioles 20–35 mm. long; sepals whitish, Ecuador. . . 17. *F. pallescens*.

DD. Younger twigs, pedicels, etc., not glabrous.

E. Hairs on twigs and pedicels spreading; leaf-blades mostly 5–12 cm. long.

F. Stamens conspicuously exerted; petals green; leaves with 7–9 principal lateral veins on each side of midrib. Mexico to Costa Rica. . . . . 7. *F. splendens*.

FF. Stamens not exerted; petals red; lateral veins 10–15.

G. Leaves opposite, elliptic to obovate. Ecuador.

50. *F. scabriuscula*.

GG. Leaves mostly ternate, lanceolate to lanceovate. West Indies.

23. *F. triphylla*.



- EE. Hairs on twigs more or less appressed (if somewhat spreading, then leaf-blades usually less than 5 cm. long); principal lateral veins mostly 3-10 on each side of midrib.
- F. Twigs pubescent; petioles mostly less than 1 cm. long; hypanthium mostly less than 2 cm. long.
- G. Sepals 7-12 mm. long. South America.
- II. Pubescence brownish; leaf-blades usually not more than 3 times as long as wide, pale green beneath, serrate. Peru. ....48. *F. decussata*.
- III. Pubescence grayish; leaf-blades usually 4 times as long as wide, whitish beneath, subentire to remotely serrulate. Ecuador. ....49. *F. hypoleuca*.
- GG. Sepals 18-22 mm. long. West Indies. ....22. *F. Pringsheimii*.
- FF. Twigs minutely puberulent; petioles 1-3 cm. long; hypanthium 2-3 cm. long. Ecuador. ....16. *F. loxensis*.
- BB. Hypanthium mostly 30-70 mm. long.
- C. Petals narrow, 2-3 times as long as wide.
- D. Young stems essentially glabrous except for the puberulence near the tips; style glabrous throughout; petals mostly glabrous.
- E. Hypanthium 35-45 mm. long; sepals long-acuminate. Peru and Bolivia.
- F. The hypanthium 5-7 mm. wide at base, usually villous within, not much narrowed above; sepals with green tips; principal lateral veins 12-15 on each side of midrib. ....10. *F. denticulata*.
- FF. The hypanthium 2-3 mm. thick at base, then narrowed; sepals apparently red throughout.
- G. Principal lateral veins 7-10 on each side of midrib; hypanthium glabrous within; sepals 17-20 mm. long. Junin to to Cuzco, Peru. ....11. *F. leptopoda*.
- GG. Principal lateral veins 13-15 on each side of midrib; hypanthium villous within; sepals 12-14 mm. long. Amazonas, Peru. ....12. *F. Woytkowskii*.
- EE. Hypanthium 50-60 mm. long; sepals acute. Colombia. ....13. *F. magdalenae*.
- DD. Young stems not glabrous; style more or less pilose on lower portion.
- E. Hypanthium 7-11 mm. wide at summit; petals frequently with some hair on backs; stems puberulent or villous; fruit 8-10 mm. thick.
- F. The young stems with fine ashy appressed puberulence; pedicels 15-25 mm. long; fruit 8-10 mm. long, subglobose. Central Cordillera of Colombia. ....24. *F. petiolaris*.
- FF. The young stems ferruginous-villous; pedicels 25-40 (60) mm. long; fruit 12-15 mm. long, ellipsoid. Eastern Cordillera of Colombia. ....25. *F. Smithii*.
- EE. Hypanthium 5 mm. wide at summit; petals glabrous; fruit less than 8 mm. thick. Peru.
- F. Stems, etc., crisp-pubescent; petioles 10-15 mm. long; petals obtusish. Dept. Piura. ....25. *F. Asplundii*.
- FF. Stems, etc., minutely appressed-puberulent; petioles 4-8 mm. long; petals subacuminate. Dept. Amazonas. ....27. *F. Llewellynii*.
- CC. Petals wider, less than twice as long as wide.
- D. Young stems mostly glabrous, except sometimes toward tips; style glabrous or nearly so to its base.
- E. Petals red. So. America.

F. Hypanthium 25-40 mm. long; leaf-blades mostly 2-10 cm. long, 1-3 cm. wide; petioles 2-10 (15) mm. long. Peru.

9. *F. austromontana*.

FF. Hypanthium 60-70 mm. long; leaf-blades 8-18 cm. long, 4-7 (9) cm. wide; petioles 10-30 mm. long. Ecuador. 20. *F. macrostigma*.

EE. Petals green. Guatemala. . . . . 8. *F. cordifolia*.

DD. Young stems hirtellous to pilose; style pilose or villous near base.

E. Twigs hirtellous with short subappressed hairs; petioles 1-5 (8) mm. long; pedicels 1-2 cm. long.

F. Leaf-blades 2-4 cm. long, 1-2 cm. wide; petioles 3-8 mm. long. Colombia and Ecuador. . . . . 14. *F. canescens*.

FF. Leaf-blades 5-6.5 cm. long, 2.5-3 cm. wide; petioles quite lacking. No. Peru. . . . . 15. *F. rivularis*.

EE. Twigs pubescent to pilose, with spreading hairs; petioles 5-20 mm. long; pedicels 15-45 mm. long. Ecuador and Peru.

F. Hypanthium narrow, 2 mm. thick at base, 5-6 mm. wide at summit; sepals 10-12 mm. long, somewhat divergent. Ecuador.

18. *F. Townsendii*.

FF. Hypanthium wider, 3-5 mm. thick at base, 7-11 mm. wide at summit; sepals 15-22 mm. long, spreading-reflexed.

G. Hypanthium gradually ampliate, hence widest at its mouth; sepals 3-4 mm. wide; petals longer than wide. Dept. Apurimac, Peru. . . . . 19. *F. platypetala*.

GG. Hypanthium abruptly ampliate near middle and slightly narrowed at summit; sepals 5-6 mm. wide; petals scarcely longer than wide. Ecuador to Ayabaca, Peru.

21. *F. ayavaccensis*.

AA. Flowers in clusters, making a definite inflorescence with bracts or leaves much reduced and different from foliage leaves.

B. Hypanthium 1-3 cm. long.

C. Young twigs essentially glabrous except for youngest tips.

D. Leaf-blades generally at least 3 times as long as wide; hypanthium 13-16 mm. long; petioles 2-4 mm. long. Colombia and N. Ecuador.

63. *F. sessilifolia*.

DD. Leaf-blades usually 2-3 times as long as wide; hypanthium usually 16-30 mm. long.

E. Leaf-blades mostly 5-8 cm. long, 1.5-3.5 cm. wide; style glabrous.

F. Flowers in elongate raceme-like inflorescences, with more or less reduced foliage-leaves. S. Peru and Bolivia. 52. *F. sanctae-rosae*.

FF. Flowers in definite very short and compact racemes. North of So. Peru.

G. Hypanthium 24-30 mm. long; sepals 9-11 mm. long; principal lateral veins on each side of midrib 8-12.

H. Sepals oblong-ovate, 5-6 mm. wide; berry over 1 cm. long; pedicels 15-25 mm. long. Peru. . . 53. *F. Osgoodii*.

HH. Sepals linear-lanceolate, 2.5-3 mm. wide; berry 5-6 mm. long; pedicels 8-18 mm. long. Ecuador.

55. *F. Lehmannii*.

GG. Hypanthium 14-18 mm. long; sepals 7 mm. long; principal lateral veins about 15. Putumayo, Colombia.

56. *F. putumayensis*.

EE. Leaf-blades mostly 8-20 cm. long, 3-9 cm. wide, with 12-18 principal lateral veins on each side of midrib; style pubescent near base.



- F. Petioles 2–8 mm. long; pedicels 5–7 mm. long; petals almost as wide as long; leaves quite glabrous. Ecuador. 61. *F. glaberrima*.
- FF. Petioles 10–40 mm. long; pedicels mostly 10–20 mm. long; petals about 3 times as long as wide; leaves puberulent along veins underneath.
- G. Leaf-blades mostly obtuse at base; fruit ca. 6 mm. long. Colombia. . . . . 54. *F. Andrei*.
- GG. Leaf-blades subaeuminate at base; fruit 8–10 mm. long. Peru. . . . . 62. *F. macrophylla*.
- CC. Young twigs definitely not glabrous.
- D. Leaf-blades mostly 5–8 cm. wide; pedicels 10–30 mm. long.
- E. Hypanthium 13–15 mm. long; racemes mostly lateral; pedicels 10–15 mm. long. Húanuco, Peru. . . . . 31. *F. ovalis*.
- EE. Hypanthium 20–30 mm. long; racemes terminal; pedicels 15–30 mm. long. Dept. Cuzco, Peru. . . . . 34. *F. tineta*.
- DD. Leaf-blades mostly 1.5–5 cm. wide; inflorescence often terminal.
- E. Stems with fine close appressed puberulence; hypanthium very narrow, scarcely bulbous at base, 14–19 mm. long, 2.5–4 mm. wide at mouth. Colombia and Venezuela to Ecuador. . . . . 64. *F. sylvatica*.
- EE. Stems pubescent to pilose; hypanthium somewhat bulbous at base.
- F. Hairs reddish. . . . . 37. *F. Storkii*.
- FF. Hairs not reddish.
- G. Flowers in terminal pyramidal panicles; hypanthium 14–20 mm. long. Colombia. . . . . 57. *F. Hartwegii*.
- GG. Flowers in racemes.
- H. Twigs pubescent; hypanthium 15–20 mm. long. Santo Domingo and Haiti. . . . . 23. *F. triphylla*.
- HH. Twigs pilose; hypanthium 20–25 mm. long. Peru.
- I. Bracts small, subulate or narrow; petioles of a given whorl subequal. . . . . 59. *F. asperifolia*.
- II. Bracts more like reduced leaves; petioles of a whorl very unequal, one much exceeding the others. 60. *F. pilosa*.
- BB. Hypanthium 3–6.5 cm. long.
- C. Leaves small, crowded, 12–16 mm. long; stems with brown hair. Peru. 32. *F. confertifolia*.
- CC. Leaves larger, 30–200 mm. long.
- D. Leaf-blades narrow, more than 4 times as long as wide, in whorls of 4, linear-lanceolate. Húanuco, Peru. . . . . 31. *F. simplicicaulis*.
- DD. Leaf-blades wider, 2–3 times as long as wide, opposite or ternate (sometimes quaternate in *F. hirtella*).
- E. Petals (under a lens) puberulent to sparsely villous on back.
- F. Sepals pubescent on inner or upper surface; fruit oblong; leaf-blades rigid. Colombia and Venezuela. . . . . 28. *F. venusta*.
- FF. Sepals glabrous on inner surface; fruit subglobose; leaf-blades membranaceous. Venezuela.
- G. Young stems appressed-puberulent; pedicels 20–40 mm. long; hypanthium 35–40 mm. long; sepals spreading, 18–20 mm. long; petals strigulose on back. . . . . 29. *F. Jahni*.
- GG. Young stems glabrous or somewhat villous; pedicels 15–20 mm. long; hypanthium 40–50 mm. long; sepals divergent, 14–15 mm. long; petals sparingly villous on back. 30. *F. Gehrigeri*.

## EE. Petals glabrous on back.

F. Young stems glabrous; leaves subglabrous above, puberulent beneath; petioles 2–8 mm. long.

G. Leaf-blades 3 times as long as wide; principal lateral veins ca. 20 on each side of midrib; pedicels 25–40 mm. long.

Peru. . . . . 43. *F. abrupta*.

GG. Leaf-blades less than 3 times as long as wide; principal lateral veins 10–12 on each side of midrib; pedicels 7–13 mm. long. Colombia. . . . . 44. *F. Cuatrecasasii*.

## FF. Young stems not glabrous under a lens.

G. The young stems finely puberulent.

H. Principal lateral veins about 12 on each side of midrib; berry 5–6 mm. long; pedicels 10–40 mm. long. Colombia. . . . . 45. *F. Killipii*.

HH. Principal lateral veins 14–24 on each side of midrib; berry 6–12 mm. long; pedicels 6–15 mm. long.

I. Leaves quite glabrous; berry subglobose, almost 1 cm. long. Junin, Peru. . . . . 39. *F. Munzii*.

II. Leaves not glabrous under a lens; berry longer than thick.

J. Leaf-blades densely soft-puberulent, with 14–16 principal lateral veins on each side of midrib; style pubescent near base. Ecuador to Húanuco, Peru. . . . . 42. *F. corymbiflora*.

JJ. Leaf-blades glabrous on casual inspection, but minutely strigulose under a lens, with 18–24 principal lateral veins; style almost glabrous. Libertad, Peru. . . . . 30. *F. Aspiazui*.

GG. The young stems pubescent to villous (very sparsely pubescent in *F. fulgens*).

H. Stems and leaves pilose or villous with brownish or reddish hairs; pedicels 15–40 mm. long.

I. Sepals 15–20 mm. long; hypanthium 35–45 mm. long. Bolivia. . . . . 38. *F. furfuracea*.

II. Sepals 8–12 mm. long. Peru.

J. Hypanthium 20–35 mm. long; petioles 10–50 mm. long. Cuzco. . . . . 34. *F. tincta*.

JJ. Hypanthium 40–45 mm. long; petioles 2–5 mm. long.

K. Leaves ternate, broadly elliptic. Amazonas. . . . . 35. *F. Mathewsii*.

KK. Leaves opposite, oblong-lanceolate. Cajamarca. . . . . 36. *F. Fischeri*.

HH. Stems and leaves strigulose to pubescent; pedicels mostly 5–20 mm. long.

I. Sepals red, pubescent on backs. Mostly So. American.

J. Sepals somewhat divergent; hypanthium strigulose without.

K. Leaves membranaceous, the apex in the same plane as the blade; berry over 1 cm. long. Central Colombia. . . 40. *F. hirtella*.

KK. Leaves rigid, rugose, the apex bent to

one side in pressing; berry less than 1 cm. long. So. Colombia and No. Ecuador.

41. *F. polyantha*.

JJ. Sepals spreading-reflexed; hypanthium with spreading hairs. West Indies and Central America to Argentina. . . . . 46. *F. boliviana*.

II. Sepals green, glabrous except for the sparse pubescence near the tips, divergent-spreading. Mexico.

47. *F. fulgens*.

### (7) *Fuchsia splendens* Zuccarini

(Plate 1, fig. 6)

*Fuchsia splendens* ZUCC., Flora, 1832, ii, Beibl., 102, 1832.

*F. splendens* in CURTIS, Bot. Mag., 70:pl. 4082, 1844; Bot. Reg., 28:pl. 67, 1842; HEMSLEY, in Bot. Biol. Centr. Amer., 1:460, 1880.

*F. cordifolia*  $\beta$  HOOKER, Icon. Pl., 5:450, 1842.

*F. intermedia* HEMSLEY, Diag. Pl. Nov., 1:14, 1878; Bot. of Biol. Centr. Amer., 1:457, 1880.

Based on Hartweg 460 which I have not seen, but the characters given do not hold in a series of specimens.

Shrub 6–25 dm. tall, often pendant, sometimes a small tree, relatively few-branched, the ultimate branchlets usually pilose or pubescent, greenish to reddish; leaves opposite, ovate to ovate-cordate, paler beneath than above, membranaceous, more or less pubescent especially when young, acuminate, denticulate, the blades 3–10 cm. long, 2–6 cm. wide, with or without reddish tinge, principal lateral veins 7–9 on each side of midrib; petioles often tinged red, pilose to subglabrous, slender, 2–5 cm. long; flowers solitary in axils or more or less crowded on short lateral branches with somewhat reduced leaves; pedicels nodding, subfiliform, pubescent, with some gland-tipped hairs, 3–5 (8) cm. long, not much elongate in fruit; hypanthium 17–20 (40) mm. long, somewhat compressed, the flattened side much broader than the ovary and gradually ampliate upward, 6–8 mm. wide at base, 7–12 mm. wide at summit, more narrow in other dimension, rose to bright red, externally pubescent with some hairs gland-tipped, internally pubescent-villous; sepals 4, green except for the sometimes reddish base, ovate-lanceolate, 8–15 mm. long, 5 mm. wide at base, pubescent, the tips scarcely free or free for 1 mm.; petals green, ovate, subacuminate, 6–10 mm. long, 4–5 mm. wide; episepalous stamens exceeding the sepals 10–18 mm. long, epipetalous 8–16 mm. long; filaments pale yellow, anthers yellow, 2–3 mm. long; style glabrous, exceeding the stamens; stigma conoid, greenish-yellow; berry linear, 3–3.5 cm. long, 5 or more mm. thick.

Type locality, "in imperio mexicano." Ranging from Chiapas to Costa Rica. at altitudes of 2000 to 10,000 feet. Variable in pubescence, some plants being cinereous (Matuda 2322, Steyermark 36056, Pittier 10501, Standley and Valerio 43829), others with longer pubescence (Skutch 118, Pittier 44, Steyermark 32833). But there seems to be no geographical or other correlation with variability in pubescence. There is also, at least in herbarium material, considerable variation in relative length and width of hypanthium. Curtis, Bot. Mag. 4082, mentioned the striking compression of the hypanthium, "so that

in one direction, the diameter of the tube does not appear to be half what it is in another"; this would account for some of the differences in herbarium specimens. However, material from Costa Rica has a long hypanthium which narrows appreciably at the summit, at least in Standley and Valerio 43829, Pittier 10501, not so much so in Stork 3024. Curtis shows such a condition in edge-view, but not in the flat view. More material from Costa Rica may warrant nomenclatorial segregation.

Representative material of *F. splendens*: H. B. Basil, May 7, 1849 (NY); "F. grandiflora N." Sessé, *Mogíño et al 5208* (F). MEXICO: *F. splendens* Zuccar. ipse, Hab. in Mexico, *Karwinski*, Herbarium Regium Monacense (photo F, GH, POM). Chiapas, without locality, *Ghiesbreght 698* (F, GH, MO); Mt. Tacaná, *Matuda 2322* (F, MICH, NY); between San Cristóbal and Tenejapa, *Souviron and Erlanson 83* (US). GUATEMALA: San Marcos, Quebrada Canjulá, between Sibinal and Canjulá, Volcán de Tacaná, *Steyermark 36056* (F). Quiché, Chiul, Heyde and Lux, under *J. D. Smith 2890* (NY, GH, US); Chimaltenango: Chichavac, *Skutch 118* (US); Santa Elena, *Skutch 220* (US); Cerro de Tecpám near Santa Clara, *Standley 61000* (F, NY, POM); Volcán de Acatenango, above Las Calderas, *Steyermark 61808* (F). Sacatepéquez, Volcán de Agua, *J. Donnell Smith 2174* (F, GH, NY, US), *Standley 65133* (F, POM); Jalapa, Montaña Miramundo, *Steyermark 32833* (F). COSTA RICA: prov?, Ojo de Agua, *Stork 3024* (F); Prov. San José, Cerro de las Vueltas, *Pittier 10501* (US), *Standley and Valerio 43829* (F, US).

### (8) *Fuchsia cordifolia* Bentham

(Plate 1, fig. 7)

*Fuchsia cordifolia* BENTHAM, Pl. Hartweg., 74, 1841; Lindl., Bot. Reg., 27:70, 1841.

Straggling shrub 1 m. or so high, to a small tree, often epiphytic, few-branched, the younger branches somewhat red, subglabrous except toward the glandular-puberulent tips; leaves ovate to cordate-ovate, opposite, paler beneath than above, puberulent when young, nearly or quite glabrate in age, more or less abruptly acuminate, obscurely denticulate; blades thin, 3-9 cm. long, 2-6 cm. wide, with 9-11 principal lateral veins on each side of the midrib; petioles 2-5 cm. long; flowers solitary in axils of upper often somewhat reduced leaves; pedicels pendant, subfiliform, puberulent, 3-8 cm. long at anthesis, not much longer in fruit; hypanthium subcylindric, dull red, puberulent without, some of the hairs gland-tipped, glabrous within, somewhat swollen at base, then slightly narrowed and somewhat broader only near the summit, 3.5-5 (6) cm. long, 4-5 mm. wide except at the summit, where 7 mm. wide; sepals mostly green except at reddish outer base, ovate-lanceolate, puberulent with some hairs gland-tipped, acuminate, 11-15 mm. long, 4-5 mm. wide at base, free tips 1-2 mm. long; petals green to olive-green, broadly ovate, glabrous, acute to subacuminate, 6-8 mm. long; episepalous stamens about as long as sepals, epipetalous about two-thirds as long; anthers yellow,

2–2.5 mm. long; style glabrous, slightly exceeding the sepals; stigma conic, 1.5 mm. long; fruit apparently linear-ellipsoid, more than 2 cm. long.

Type locality, "In monte ignivomo Xetueh infra apicem, altitudine ped. 10,000," prope Quezaltenango, Guatemala. The species is known from elevations of 8000–11000 ft. from the mountains of Guatemala. It is distinguished from *F. fulgens* by its green petals and from *F. splendens* by its shorter stamens, the hypanthium being glabrous within and longer and subcylindric. Specimens studied, GUATEMALA: Dept. San Marcos, Volcán de Tajumulco, between San Sebastián and Todos Santos, *Steiermark 36942* (F); Dept. de Quezaltenango, Volcán de Zunil, *Steiermark 34686* (F); Cerro Quemado, *Kellerman 5953* (US); Volcán de Santa Maria, *Nelson 3723* (F, US). *Skutch 867* (F, NY), *Standley 67592* (F), *67648* (F); Xetueh, *Hartweg 528*, fragment of type number (F), photo of type no. (F, POM); Dept. Chimaltenango, San Martín, *Lewis 936* (F.)

(9) ***Fuchsia austromontana*** Johnston

(Plate 1, fig. 8)

*Fuchsia austromontana* JOHNSTON, Journ. Arnold Arboretum, 20:242, 1939.  
*F. serratifolia* Hook., Bot. Mag., 71:pl. 4174, 1845; not of R. and P.

Loose bushy shrubs up to 4 m. tall; twigs reddish, 1.5–3 mm. thick, glabrous except for the pilose tips; leaves opposite or ternate (or quaternate?), elliptic to elliptic-lanceolate or -ovate, acute to obtuse at base, acuminate at apex, serrulate, strigulose (at least along the veins) and light green on upper surface, paler beneath and villous on veins, rather fleshy, with 8–15 principal veins on each side of midrib, the submarginal vein often inconspicuous; blades 2–10 (12) cm. long, 1–3 (4) cm. wide, upper ones considerably reduced; petioles 2–10 (15) mm. long, villous; stipules lanceolate, 2–3 mm. long, deciduous; flowers in upper axils; pedicels stoutish, 1–3.5 cm. long, sparsely strigulose; ovary fusiform, sparsely strigulose, 8–10 mm. long, 2–2.5 mm. thick; hypanthium light red, subcylindric, 2.5–4 cm. long, enlarged at base (3.5–5 mm. thick), then narrowed for about 1 cm. (i.e. 2–3 mm. thick), then gradually wider toward summit (ca. 7 mm. wide), sparsely villous without, villous within lower portion; sepals red, lanceolate, 15–17 mm. long, 4 mm. wide, subacuminate (bud subacuminate, but scarcely apiculate), pubescent to villous without, glabrous within; petals broadly obovate, rounded at apex, 14–15 mm. long, 11–12 mm. wide, red, sometimes purple on drying; stamens 16–17 and 10–11 mm. long; anthers 4–5 mm. long; style glabrous, 2–3 mm. longer than sepals; stigma 2–3 mm. thick; berry broadly ellipsoid, about 15 mm. long, 8 mm. wide.

Type locality, between Pillahuata and Acanacu, prov. Paucartambo, dept. Cuzco, Peru. Near to *F. denticulata* in the broad hypanthium and glabrous style and to *F. cordifolia* in the broad hypanthium-base. It seems to be rather local in Paucartambo; I have seen the following collections: PERU: Paucartambo: between Pillahuata and Acanacu, at 2800 m., *West 7083*, isotype



(GH); Pillahuata, Cerro de Cusilluyoc, 3000–3300 m. *Pennell 14110* (F, GH, US); Cabecera de Montaña, camino a Tambomayo, 2000 m. *Vargas 10-7083* (F); between Achirani and Medias-Mayu, 2600 m., *Vargas 11121* (F); Accanaco, 4000 m., *Balls 6708* (US).

(10) ***Fuchsia denticulata*** Ruiz and Pavón

(Plate 2, fig. 9)

*Fuchsia denticulata* RUIZ and PAVÓN, Fl. Peruv., 3:87, pl. 325, fig. b, 1802.

*F. serratifolia* RUIZ and PAVÓN, l.c., 86, pl. 323, fig. a. Since this name has page priority, I had intended to use it, but must follow Art. 56 of the International Rules, since Macbride took up this name (Field Mus. Nat. Hist.-Bot. Ser., 13, part 4:553, 1941).

*F. tacsoniiflora* KRAUSE, Fedde Rep. Nov. Sp., 1:172, 1905; based on Weberbauer 252, which seems to belong here.

*F. grandiflora* RUIZ ex Dahlgren, Field Mus. Nat. Hist.-Bot. Ser., 21:212, 1940, *nomen nudum*. Have seen photograph of Geneva specimen (F, POM).

Semiscandent shrub to tree, up to 12 m. tall, the young twigs green to reddish, mostly 3–5 mm. thick, subterete, mostly glabrous, more or less puberulent or pubescent toward tips, about younger nodes, etc.; leaves opposite or ternate, elliptic to oblong, rather fleshy, subentire to somewhat serrate, acute to obtuse at base, acute to acuminate at apex, darker above than beneath, subglabrous to puberulent above, subglabrous beneath or somewhat villous along veins, the principal lateral veins 12–15 on each side of midrib, submarginal vein evident; blades 4–11 cm. long, 2–4 (5) cm. wide; petioles 5–15 mm. long, 1–2 mm. wide, glabrous to pubescent; stipules lance-deltoid, ca. 1 mm. long, deciduous; flowers solitary in axils of upper somewhat reduced leaves; pedicels rather stout, 1.5–4 cm. long, usually minutely strigulose; ovary subfusiform, 10–12 mm. long, 2–3 mm. wide, minutely strigulose; hypanthium tubular, red, 3.5–4 cm. long, 5–7 mm. wide at base, very little narrowed, then very gradually widened toward mouth where 7–10 mm. wide, subglabrous to sparsely villous without, usually densely villous within lower portion; sepals red with green tips, lanceolate, divaricate, 18–24 mm. long, 4–5 mm. wide, acute to acuminate (bud acuminate) in the terminal 3–4 mm. but scarcely apiculate, glabrous to somewhat villous on backs, glabrous on inner surface; petals crimson to scarlet, oblong to oblong-lanceolate, acute to obtuse, 15–17 mm. long, 4–6 mm. wide, glabrous; stamens 17–20 and 13–16 mm. long, glabrous; anthers white, 4–5 mm. long; style stout, glabrous, equaling or exceeding sepals by a few mm.; stigma white, subglobose, ca. 3 mm. thick; berry ellipsoid, 16–19 mm. long, ca. 8 mm. thick, subglabrous to minutely strigulose.

Type locality, Muña, dept. Húanuco, Peru. With *F. leptopoda*, etc. this species forms a long-tubed, axillary-flowered group related to *F. cordifolia*, *F. austromontana*, etc. I am unable to separate *F. serratifolia* and *F. denticulata*, type material of both of which has been available. They are characterized by their stout twigs, fleshy, elliptic subglabrous leaves, tubular hypanthium, non-apiculate buds, ellipsoid berry. Found in Peru and Bolivia; representa-

tive material as follows: *F. denticulata*, ex Herb. Madrid, *Ruiz and Pavón*, type material (F), photograph of Geneva material (F, POM); *F. serratifolia* ex Herb. Madrid, *Ruiz and Pavón*, type material (F), photograph (F, POM); *F. grandiflora*, photograph of Geneva specimen (F, POM). PERU: Húanuco, 15 mi. se. of Húanuco, 3200 m., *Macbride and Featherstone 2082* (F, GH, US); Mito, 2800 m., *Macbride and Featherstone 1403* (GH, F, US); west of Carpish, *Stork and Horton 9893* (F); Muña, trail to Tambo de Vaca, 2500 m., *Macbride 4284* (F, GH, US); Carpish, between Acamayo and Chinchao, 2800 m., *Mexia 04127* (GH); Lima to Oroya, 3200 m., *Weberbauer 252*, type *tacsoniiflora* at Berlin (photo F, POM); Río Blanco, Lima at 3600 m., *Macbride and Featherstone 723* (F, GH); Quebrada de San Mateo, *Isern 2546* (F). Ayacucho, Prov. Huanta, Choimacota Valley, 2900 m., *Weberbauer 7587* (F, GH, US). Huancavelica: Prov. Tayacaja, Montifungo, east of Sureubamba, 3000 m., *Stork and Horton 10367* (F); Salcabamba, 3250 m., *Stork and Horton 10261* (F). Cuzco: Prov. Paucartambo, Río Tambomayo, 1700–2000 m., *West 7093* (GH). BOLIVIA: La Paz: Nor Yungas: Unduavi, 3000 m., *Eyerdam 25137* (F); Sur Yungas: Unduavi, 3100 m., *Buchtien 143* (F, GH, NY), *2923* (NY, US); Yungas, *Bang 731* (F, GH, NY, US), *Rusby 1801* (NY); Combaya, Prov. Larecaja, 3000–3300 m., *Mandon 623* (GH).

### (11) *Fuchsia leptopoda* Krause

(Plate 2, fig. 10)

*Fuchsia leptopoda* KRAUSE, Fedde Rep., Nov. Sp., 1:171, 1905.

*F. siphonantha* KRAUSE, l.c., 173.

Scandent to erect shrub, up to 3 m. tall, the twigs dark, glabrous to strigulose toward tips, terete, 1–3 mm. thick; leaves opposite or ternate, elliptic-lanceolate or -oblanceolate, acute at base, acuminate at apex, serrulate above, light green and glabrous or strigulose on veins, paler beneath and glabrous except for pilose veins, the principal lateral veins mostly 7–10 on each side of midrib, the submarginal vein more or less developed; blades 4–9 cm. long, 1.5–2.5 (3) cm. wide; petioles slender, 5–15 mm. long, somewhat pubescent; stipules lanceolate, 3 mm. long, deciduous; flowers in axils of often reduced foliage leaves; pedicels slender, subglabrous, 3–5 cm. long; ovary fusiform, glabrous to puberulent, 5–8 mm. long; hypanthium dark red, tubular, 3.5–4.5 cm. long, somewhat bulbous at base and ca. 3 mm. thick, then narrowed to width of 1.5–2 mm. for about 1 cm., then widened toward mouth where 6–7 mm. wide, glabrous to sparsely villous without, densely villous within lower portion; sepals deep red, lance-linear, 17–20 mm. long, 3.5–4 mm. wide, acuminate (bud very slender and long-acuminate, with tip 4–5 mm. long), glabrous to pubescent on back, glabrous within, petals fiery red, oblong, 17–18 mm. long, 4–7 mm. wide, acute, glabrous or sparsely villous on back near base; stamens 18–22 and 12–15 mm. long, glabrous; anthers 3–4 mm. long; style glabrous, equalling sepals or exceeding them by 1 cm., stigma subglobose, obscurely lobed, 2–3 mm. wide; fruit narrow, over 1 cm. long.

Type locality, PERU: Junin: Prov. Tarma, between Huacapistana and Palea. I have seen the following examples: PERU: Junin: Prov. Tarma: between Huacapistana and Palea, 2200–2500 m., *Weberbauer 1772*, type at Berlin (photo at F, POM); Montibus ab Huacapistana ad orientem versus, 2600–2700 m., *Weberbauer 2178* type *siphonantha* at Berlin (photo F, POM). Ayacucho: Prov. De La Mar: between Tambo and the Apurimac, Yanamonte, 2700–2800 m., *Weberbauer 5641* (F, GH, US); Prov. Huanta, Choimacota Valley, 2900 m., *Weberbauer 7587a* (F, GH). Cuzco: Paucartambo: Tres Cruces, above Cosñipata, *Weberbauer 6934* (F, GH, US). In general, this species is very near to *F. denticulata* but with a more narrow tube and leaves, long-pointed buds, etc.

(12) **Fuchsia Woytkowskii** Macbride

(Plate 2, fig. 11)

*Fuchsia Woytkowskii* MACBRIDE, Field Mus. Nat. Hist., Bot. Ser., 13: part 4:566, 1941.

Shrub up to 4 m. tall, the young twigs glabrous, purplish red, slender; leaves opposite or ternate, elliptic-lanceolate to -ovate, acute at base, acute to acuminate at apex, subentire, rigid, dark and glabrous above, somewhat paler and glabrous beneath except for the minute appressed puberulence on the veins, principal lateral veins 13–15 on each side of the midrib, submarginal vein evident; blades 4–8 cm. long, 1.5–3 cm. wide; petioles 3–6 mm. long; stipules subulate, 2 mm. long, deciduous; flowers solitary in axils of upper leaves or apparently subterminal on short branches; pedicels purplish, subfiliform, nearly glabrous, 1–2.5 cm. long; ovary fusiform, 5–6 mm. long, 2 mm. wide; hypanthium deep vermilion, 3.5–4.7 cm. long, bulbous at base, 2–2.5 mm. wide, then narrowed for one-third its length then gradually widened until 6–7 mm. wide at mouth, glabrous without, pilose within the basal two-thirds; sepals vermilion, spreading, 12–14 mm. long, 4–5 mm. wide, glabrous, subulate for 2–3 mm. at apex (the tips apparently not connivent in the bud); petals bright red, oblong-elliptic, 12–13 mm. long, glabrous, erose-rounded at apex; stamens 10 and 8 mm. long; anthers 2 mm. long; style glabrous, surpassing sepals by 2–3 mm.; stigma 2 mm. thick.

Type, PERU: Dept. Amazonas: near Almirante, at 1900 m., *F. Woytkowski* (F). This one and only specimen is rather inadequate, but apparently does not fit into any of the previously described species. It seems near *F. leptopoda*, but the hypanthium is more slender and not glabrous within, and the sepals are shorter and with free tips in the bud.

(13) **Fuchsia magdalenae** Munz, new species

(Plate 2, fig. 12)

Shrub; young twigs glabrous, purplish, 1.5–3 mm. thick; leaves opposite, ternate or quaternate, coriaceous, elliptic, rounded at base, abruptly acuminate at apex, inconspicuously denticulate, quite glabrous except for the ciliate margins, somewhat paler beneath than above, principal lateral veins dark,

8-10, the submarginal vein more or less distinct; blades 3-6 cm. long, 1.5-2.5 cm. wide, the upper reduced; petioles dark, glabrous, 5-6 (10) mm. long; stipules subulate, 1 mm. long, deciduous; flowers solitary in upper axils, subfiliform, glabrous, 4-5 cm. long, dark; ovary glabrous, 7-11 mm. long, 2-2.5 mm. wide; hypanthium purplish at base, brighter red beyond, 5-6 cm. long, about 4 mm. wide at base, then not constricted but tubular and gradually enlarged until 8-9 mm. wide at mouth, glabrous without and within; sepals lance-oblong, 16-19 mm. long, 4.5-5 mm. wide, red, glabrous, acute, not subulate at apex; petals scarlet, oblong-ovate, 15-18 mm. long, 7-8 mm. wide, acutish; stamens 17 and 13 mm. long; anthers 3.5 mm. long; style slender, glabrous, exceeding sepals by 5-6 mm.; stigma 4-lobed, 4 mm. wide; berry ellipsoid, ca. 17 mm. long, 8 mm. wide.

Frutex; ramulis glabris, subpurpureis, 1.5-3 mm. diametro; foliis oppositis, ternatis vel quaternis, coriaceis, ellipticis, basi rotundatis, apice abrupte acuminatis, subglabris; laminis 3-6 cm. longis, 1.5-2.5 cm. latis; petiolis glabris, 5-6 (10) mm. longis; stipulis subulatis, 1 mm. longis, caducis; floribus solitariis in axillis superioribus; pedicellis subfiliformibus, glabris, 4-5 cm. longis; ovario glabro, 7-11 mm. longo; hypanthio rubro, 5-6 cm. longo, basi 4 mm. lato, tubuloso, supra 8-9 mm. lato, extus intusque glabro; sepalis lanceolato-oblongis, 16-19 mm. longis, 4.5-5 mm. latis, rubris, glabris, acutis; petalis coccineis, oblongo-ovatis, 15-18 mm. longis, 7-8 mm. latis, subacutis; staminibus 17 vel 13 mm. longis; antheris 3.5 mm. longis; stylo glabro, sepalis excedente; stigmatibus 4-lobatis; bacca ellipsoidea, ca. 17 mm. longa, 8 mm. lata.

Type: Colombia: Dept. Magdalena: above San Miguel, at edge of páramo, 3000 m., July, 1932, *Seifriz 392*, United States Nat. Herb. no. 1572275. A second collection from the same department is from between Pueblo Viejo and San Miguel, 900-1700 m., *Seifriz 537* (US). The proposed species is related to *F. denticulata* in its tubular hypanthium; it is characterized by its long hypanthium, thickish leaves, glabrous condition, non-acuminate sepals and northern range.

(14) ***Fuchsia canescens* Bentham**

(Plate 2, fig. 13)

*Fuchsia canescens* BENTH., Pl. Hartweg., 178, 1845.

*F. corollata* BENTH., l.c., 179. Type number seen.

*F. vulcanica* ANDRÉ, Rev. Hortie., 233 and 268, 1888; from Volcán de Azufra, type not seen, but characters as given agree.

Erect or clambering shrubs up to 3 m. tall, freely branched, the young twigs terete, dark, hirtellous with more or less appressed short hairs; leaves opposite, ternate or quaternate, crowded, coriaceous, often with revolute margins, elliptic-ovate, obtuse or rounded at base, obtuse to acute at apex, serrulate, dark green and pubescent to glabrescent above, paler beneath and pilose on veins, sometimes more generally, the principal lateral veins mostly 4-7 on each side of the midrib, submarginal vein often not conspicuous; leaf-blades 2-4 cm. long, 1-2 cm. wide; petioles 3-5 (8) mm. long, pubescent; stipules lance-subulate, 1-1.5 mm. long, deciduous; flowers axillary; pedicels slender, pubescent, 1-2 cm. long; ovary ellipsoid, pubescent, 5-6 mm. long; hypanthium deep scarlet, purplish at base, 3.5-4.5 cm. long, bulbous at base and 2.5-3 mm. thick.



then abruptly narrowed to 1–2 mm. for one-third its length, then rather gradually widened until 6–7 (9) mm. wide at summit, more or less pilose without, pilose within the lower half or almost throughout; sepals deep scarlet, more or less divergent to almost spreading, 10–16 mm. long, 4–5 mm. wide, acuminate, with subulate tips about 1 mm. long, pilose without, glabrous within; petals scarlet, sometimes drying purplish, rhombic-ovate to -obovate, acute to obtuse or almost rounded at apex, from about as long as to exceeding sepals, 10–16 mm. long, 6–12 mm. wide; stamens 10–12 and 7–8 mm. long; anthers 1.5–2 mm. long; style pilose within much of the hypanthium, about as long as sepals; stigma scarlet, about 2 mm. thick; fruit apparently ellipsoid.

Type locality, ascent to Páramo Guanacas, near Popoyan, Cauca, Colombia. Extending from Calda, Colombia into Ecuador. Representative material, COLOMBIA: Caldas: Páramo del Quindio, 3800–4000 m., *Pennell and Hazen 10058* (GH, NY). Antioquia: Páramo de Ruiz, 2800–3300 m., *Lehmann 3067* (US. Cauca: Páramo de Buena Vista, Huila group, central Cordillera, 3100 m., *Pittier 1188* (US); ad Páramo Guanacas, near Popoyan, *Hartweg 992*, type no. *canescens* at Geneva (photo F, POM, leaf F); in sylvis Purace, 3100 m., ad Páramo de Guanacas, near Popoyan, *Hartweg 993*, type no. *corollata* at Berlin (Photo F, POM, leaves F). Nariño: Volcán de Galera above Pasto, 2600–2800 m., *Lehmann 5615 B* (F); Altos Caballos, 3000 m., *Triana 3808* (US). ECUADOR: Carchi: Nudo de Boliche, Voladero, 4000 m., *Penland and Summers 915* (F, POM); Canton Tulcan, road Tulcan to Pun, 3200 m., *Mexia 7584* (POM, US); Páramo del Azufral, east of Angel, *Mexia 7512* (NY, US). Bolívar: Simiatuz: Hacienda Talahua, 3200 m., *Penland and Summers 623* (F, POM). Tungurahua: Páramo de Minza, Minza Chica, 3800 m., *Penland and Summers 337* (F, POM).

*F. canescens* comes in a broad-petaled group which seems to me to be related to the *F. cordifolia* group in its broad hypanthium-base and in having the hypanthium quite inflated in its upper third. The species is near *F. ayavacensis* but differs in the smaller thicker leaf-blades, shorted pedicels, the petals nearly as long as or longer than the sepals, the latter being shorter and more spreading than in *ayavacensis*. There is some question as to whether my treatment of *canescens* is too inclusive; *Penland and Summers 623*, and *915* and *Mexia 7512* having the petals rather round and shorter than the sepals; *Hartweg 992*, *Pittier 1382*, and *Penland and Summers 623* having the upper surface of the leaves finely strigose. But the whole range of variation seems such as not to make possible a taxonomic differentiation with the amount of material available. The leaves from the type collections of *canescens* and *corollata* are quite alike.

(15) **Fuchsia rivularis** Macbride

*Fuchsia rivularis* MACBRIDE, *Candollea*, 8:24, 1940; *Field Mus. Nat. Hist., Bot. Ser.*, 13, part 4:562, 1941.

Branchlets puberulent; leaves ternate, ovate-elliptic, abruptly acuminate, entire, glabrous above, loosely pilose beneath, the blades 5–6.5 cm. long, 2.5–3



cm. wide; petioles lacking or nearly so; flowers solitary in axils of somewhat reduced upper leaves; pedicels 1 cm. long; hypanthium 4.5 cm. long, sparsely puberulent without, pilose within lower portion, gradually ampliate; sepals narrowly lanceolate, long-acuminate, 2 cm. long; petals oblong, about as long as sepals; stamens shorter.

Based on a Mathews collection from Chachapoyas, Amazonas, Peru and said to be near *F. ayavacensis* or *F. hirtella*, but with narrower petals and more sessile and wider leaves. I have seen no material nor photographs, but except for the larger leaves and longer petioles it seems much like *F. canescens*.

(16) **Fuchsia loxensis** H.B.K.

(Plate 2, fig. 14)

*Fuchsia loxensis* H.B.K., Nov. Gen. et Sp., 6:106, pl. 536, 1823.

*F. umbrosa* BENTH., Pl. Hartw., 176, 1845; I have seen a photograph of the type.

*F. apiculata* JOHNSON, Contr. Gray Herb., 75:34, 1925. Type seen.

Shrub, slender, stiff and bushy or more or less scandent or leaning, commonly up to 2 or 3 m. tall, the younger twigs slender, 1–3 mm. thick, purplish red, loosely appressed-puberulent, with whitish or yellowish hairs; leaves opposite to ternate, sometimes quaternate, firm, elliptic to elliptic-oblong, rounded to acute at base, mostly acute at apex, subentire to remotely denticulate, shining, deep green and minutely appressed-puberulent to glabrescent above, paler and puberulent beneath, also more or less pilose beneath especially along or near the midrib, principal lateral veins often reddish beneath, prominent, about 10 on each side of the midrib, the submarginal vein present; leaf-blades 2.5–6 (7) cm. long, 1.2–2 (3) cm. wide; petioles slender, strigulose, 1–3 cm. long; stipules subulate-deltoid, 1–2 mm. long, deciduous; flowers solitary in axils; pedicels slender, strigulose, and sometimes pilose, 1–2.5 cm. long; ovary ellipsoid, strigulose, 3–5 mm. long; hypanthium deep red, 20–25 (30) mm. long, the base 2–3 mm. thick, then very slightly narrowed, then gradually widened until 5–6 mm. wide at the mouth, shining and somewhat strigulose without, densely white-pubescent within the lower half; sepals scarlet, lance-oblong, 8–10 mm. long, 3.5–4 mm. wide, divergent, puberulent to sparsely pilose, the subulate tips about 1 mm. long; petals ovate, dull red, 6–9 mm. long, 5–6 mm. wide, obtuse; stamens 7–8 and 5–6 mm. long, anthers 2 mm. long; style pubescent in lower part, red, exceeding sepals by 3.5 mm.; stigma 2 mm. wide; fruit ellipsoid, 8–15 mm. long, 5–6 mm. thick.

Type locality, near Loja (Loxa), Ecuador. The species is apparently confined to the highlands of Ecuador, growing at from 2000–3400 meters. Representative material seen, ECUADOR: without definite locality: Eastern Cordillera. *Rimbach 6* (GH, NY, US); in Andibus Ecuadorensibus, *Spruce 5203* (GH, NY). Pinchincha: Hacienda de Pinantura near Quito, *Hartweg 983*, type no. *umbrosa* at Geneva (photo F, POM); near Tambillo, *Penland and Summers 959* (F, POM); Qüitig-Tesalia (Machaichi), *Firmin 666* (F, GH, US). Leon: Cotopaxi: road Pilaloa to Macuchi, *Haught 2955* (POM, US).

Tungurahua : west of Ambato, *Heinrichs* 828 (NY) ; south of Bañoa, *Penland and Summers* 93 (F, POM). Bolívar : Simiatug : Hacienda Talahua, *Penland and Summers* 520 (F, POM). Azuay and Cañar : between Cuenca and Huigra, *Hitchcock* 21667, type no. *apiculata* (GH, NY, US). Loja : mts. near Loxa, *Hartweg* 733 (NY) ; *F. loxensis*, *Humboldt* in Willdenow Herbarium at Berlin (photo, F, POM).

*F. loxensis* seems near to *F. canescens* in its leaves, broad petals, etc., but has shorter hypanthia and somewhat narrower petals; *Spruce* 5203, above cited, is quite intermediate. It is near *F. decussata* in some ways, but has longer hypanthia, less serrate leaves and less evident stamens.

#### (17) *Fuchsia pallescens* Diels

*Fuchsia pallescens* DIELS, Notizbl. d. bot. Gart. u. Mus. zu Berlin-Dahlem, 14:34, 1938.

Medium sized shrub, younger branches subglabrous; leaves opposite or ternate, membranaceous, subovate, subacuminate at both ends, callous-denticulate, almost glabrous; blades 6–7 cm. long, 3.5–4 cm. wide; petioles 2–3.5 cm. long; flowers axillary, but arranged subcorymbosely near tips of branches; pedicels 8–15 mm. long; ovary attenuate at apex; hypanthium pale carmine, 2 cm. long, nodose at base, then constricted, then gradually widened until 4 mm. wide at mouth, glabrous without; sepals white, lanceolate, very acute, 10–12 mm. long, 3 mm. wide at base; petals purplish, 6–7 mm. long; style with globose stigma.

Type locality, ECUADOR: Prov. Tunguragua: east of Patate, montane forest above Leito at 2750 meters. I have seen no material, but the plant would seem to be near *F. loxensis* and distinct from it in being more glabrous, having wider more plainly toothed leaves, and in its white sepals.

#### (18) *Fuchsia Townsendii* Johnston

(Plate 3, fig. 15)

*Fuchsia Townsendii* JOHNSTON, Contr. Gray Herb., 75:33, 1925.

Shrub, the young twigs purplish, densely spreading-pubescent; leaves crowded, ternate, elliptic-oblancoate, membranaceous, acute at base, acuminate at apex, remotely denticulate, green and sparsely and finely pubescent above, paler and densely canescent-villous beneath, the principal lateral veins 10–12 on each side of midrib; blades 6–13 cm. long, 2–3 cm. wide; petioles pubescent, 5–20 mm. long; stipules subulate, 1–2 mm. long, deciduous; flowers few, axillary; pedicels slender, pubescent, 1.5–2.5 cm. long, bulbous at base where 2 mm. thick, then narrowed for one-third its length to 1.5 mm., then gradually widened to 5–6 mm. at mouth, densely pubescent without and within the lower half; sepals 10–12 mm. long, ascending, lanceolate, acute, 4 mm. wide, pubescent on back, glabrous on upper or inner surface; petals ovate, 9–10 mm. long, 8 mm. wide, obtuse; stamens 13 and 9 mm. long; anthers 3 mm. long; style pubescent in lower part, slender, not exceeding sepals; berry hairy, narrowly ellipsoid, over 1 cm. long.

Type locality, Sabiango Hill, Ecuador, type collected by *C. H. Townsend*,

number 1193 (type at US, fragment GH). The type collection is the only material I have seen; it is distinct in its large thin hairy leaves, long narrow hypanthium and short sepals and petals. *F. Scherffiana* André (Rev. Hortie., 1888, 233, 268) may be an earlier name for this species, but since I have not seen certain material I am not sure as to width of petals.

(19) **Fuchsia platypetala** Johnston

(Plate 3, fig. 16)

*Fuchsia platypetala* JOHNSTON, Journ. Arnold Arbor., 20:241, 1939.

Shrub 2-3 m. tall, the younger branches 2-4 mm. thick, terete, somewhat reddish, pubescent; leaves opposite or ternate, elliptic-lanceolate, membranaceous, acute at both ends, serrulate, pilose-pubescent on both surfaces especially when young, principal lateral veins 8-11 on each side of midrib, with submarginal vein present; blades 2.5-7.5 cm. long, 1-2.3 cm. wide; petioles slender, 4-15 mm. long, pilose; stipules subulate-deltoid, ca. 1 mm. long; flowers in upper axils; pedicels slender, 2-3.5 cm. long, somewhat pilose; ovary ellipsoid, 8-10 mm. long, pilose; hypanthium red, 4.5-5 cm. long, bulbous at base where 3-4 mm. thick, then 2-3 mm. wide for one-third its length, then gradually widened until 8-9 mm. wide at mouth, sparsely pilose externally, densely so within for two-thirds its length; sepals lanceolate, crimson, 15-20 mm. long, 3-4 mm. wide, apiculate for 2-3 mm., sparsely pilose without, glabrous within; petals crimson but with central white oblong blotch, obovate, rounded or broadly obtuse, 14-16 mm. long, 10-12 mm. wide; stamens 16-17 and 12-13 mm. long; anthers 3 mm. long; style pilose through most of its length, reddish; stigma slightly lobed, 3 mm. thick.

Type locality, Chincheros, Apurimac, Peru. Material seen, PERU: Dept. Apurimac: Chincheros, at 2930 m., *West 3705* (GH, type). Cuzco, cultivado en los jardines, *Herrera 1514* (GH). The plant would seem in its wide-based hypanthium to be in the *denticulata*, *austromontana*, *leptopoda* group but differs in its hairy style, thinner leaves, wider petals, and whitish blotch on each petal.

(20) **Fuchsia macrostigma** Bentham

*Fuchsia macrostigma* BENTHAM, Pl. Hartw., 129. Dec., 1844.

Erect shrub, 0.5-1.5 m. tall, apparently rather openly branched, the young twigs green to reddish, herbaceous, terete or angled, 1.5-3 mm. thick, glabrous to pubescent; leaves opposite, membranaceous, broadly to narrowly elliptic, acute to obtuse at base, abruptly acute to subacuminate at apex, obscurely denticulate, ciliate, dark green and subglabrous to puberulent above, lighter and subglabrous to puberulent beneath, purplish on veins, principal lateral veins 12-16 on each side of midrib, submarginal vein developed; blades 8-18 cm. long, 4-7 (9) cm. wide; petioles 1-3 cm. long; stipules deltoid, 2-3 mm. long, more or less persistent; flowers solitary in upper axils; pedicels coarse,

ascending, 1–2 cm. long; ovary linear, 6–10 mm. long, 2–3 mm. thick; hypanthium tubular, reddish purple, especially on lower half, 6–7 cm. long, 2–3.5 mm. thick at base, then very slightly narrowed for one-third its length and gradually widened to 6–8 mm. at mouth, puberulent to pilose without, glabrous within; sepals lance-oblong, purplish red or lighter, spreading, 16–23 mm. long, 7–8 mm. wide, subulate for about 2 mm. at tip, pilose to puberulent without, glabrous to pilose within; petals orbicular-obovate, 12–17 mm. long, somewhat wider, cerise to crimson, apically rounded; stamens 12–13 and 9–10 mm. long; anthers light, about 3 mm. long; style stout, sparsely pubescent to glabrous, extending about to end of sepals; stigma subglobose, 4-lobed, green, about 4 mm. wide; fruit elongate, more than 1 cm. long.

Characterized by its large leaves, purplish color on stems, veins, hypanthium, etc., almost glabrous condition, wide petals and long cylindrical hypanthium, this species seems near *F. platypetala*, *rivularis*, etc.

KEY TO VARIETIES OF *Fuchsia macrostigma*

- A. Leaves subglabrous except on veins; hypanthium more or less pilose. Provinces Careli to Pichincha, Ecuador.....20a. var. *longiflora*.  
 AA. Leaves minutely puberulent; hypanthium densely close-pubescent. Provinces Chimborazo to El Oro, Ecuador.....20b. var. *typica*.

(20a) *Fuchsia macrostigma* Benth. var. *longiflora* (Benth.) Munz, new comb.

*F. longiflora* BENTHAM, Pl. Hartw., 177, 1845.

*F. spectabilis* Hook., Bot. Mag., 74:pl. 4375, 1848.

Leaves subglabrous except on veins; hypanthium more or less pilose.

Type locality, Andes of Quito, Ecuador, toward Nanegal. Material seen, ECUADOR: Carchi: Olivos, 3200–3500 m., *Mexia* 7462 (US). Bolívar: Simiatuz: Hacienda Talahua, 2300 m., *Penland and Summers* 657 (F, POM), 614 (POM). Pichincha: Quitensian Andes, *Couthouy in 1855* (GH); Montis Pichincha, *Jameson in 1856* (GH, NY). I have not seen the type.

(20b) *Fuchsia macrostigma* Benth. var. *typica* Munz, new name

(Plate 3, fig. 17)

*F. macrostigma* BENTHAM, Pl. Hartw., 129, 1844.

*F. spectabilis* Hook., var. *pubens* JOHNSTON, Contr. Gray Herb., 75:34, 1925.

Leaves minutely puberulent; hypanthium densely close-pubescent.

Type locality, "In montibus Pacha," southern Ecuador. Benth., l.c., 113 says for nos. 708–869: "in montibus circa Loxa"; since this species comes between nos. 733 and 734, one would infer that it came from that region. I have not seen the type number, but the description fits very well the following plants: ECUADOR: Chimborazo: Huigra: Hacienda de Licay, *J. N. and G. Rose* 22479, type no. of *pubens* (GH, NY, US). Oro: between La Chorita and Portovelo, *Hitchcock* 21168 (GH, NY, US).



(21) *Fuchsia ayavacensis* H.B.K.

(Plate 3, fig. 18)

*Fuchsia ayavacensis* H.B.K., Nov. Gen. et Sp., 6:107, 1823.*F. ampliata* BENTHAM, Pl. Hartw., 178, 1845.*F. Hitchcockii* JOHNSTON, Contr. Gray Herb., 75: 33, 1925.

Branching, sometimes scandent shrub up to 3 m. high, younger branches hirtellous-pilose, more or less purplish, terete, 1.5–3 mm. thick; leaves ternate or quaternate, rather crowded, membranaceous, elliptic-lanceolate to oblanceolate, or -ovate, acute to obtuse at base, acute to acuminate at apex, remotely denticulate, principal veins purplish, laterals 6–10 on each side of midrib, the submarginal present; leaf-blades pilose or pubescent and dark green above, paler and pilose beneath especially along veins, 4–9 cm. long, 1.5–3 cm. wide; petioles pilose, slender, mostly 5–20 mm. long; stipules subulate-lanceolate, 1.5–2 mm. long, deciduous; flowers in upper axils; pedicels slender, pubescent, 2.5–4 (5) cm. long; ovary oblong-fusiform, hairy, 6–7 mm. long; hypanthium deep red, 3.5–5 (6) cm. long, bulbous at base and 3.5–5 mm. wide, then constricted for 1–2 cm. and 2–3 mm. wide, then quickly widened until 7–11 mm. wide just below the slightly constricted apex, sparsely pilose without, densely so within most of its length; sepals acuminate, subulate for 1–2 mm. at apex, somewhat pilose on back, glabrous above; petals scarlet, rounded-ovate, 10–13 (15) mm. long, about as wide; stamens 13–17 and 10–14 mm. long; anthers 3 mm. long; style densely pilose throughout its portion within the hypanthium, sparsely so on base of exposed portion, about equalling the sepals; stigma 2–2.5 mm. thick; fruit apparently ellipsoid.

Type locality, Ayavaca (Ayabaca), Piura, Peru. There is some question as to whether I have seen the original material; number 3115 of Humboldt in the Willdenow Herbarium at Berlin labeled *Fuchsia* is interpreted by Lewin as *ayavacensis*. A photograph was distributed by the Field Museum as *F. hirta*, which name has never been published. No. 3115 in the Bonpland Herbarium at Paris is labeled "*F. ayavacensis* HBK, *F. ampliata* Benth.!" as from Rucu Pichineha. It agrees well with the description, as does type material of *F. ampliata*. In the type of *F. Hitchcockii*, the petals are only half the sepals, the hypanthium is rather long, but both these conditions are matched by some of the Jameson collections. The reflexed-spreading sepals and round petals shorter than the sepals, the pilose condition of the largish leaves characterize *F. ayavacensis*. Representative material. ECUADOR: without locality, Jameson (US). Pichineha: Canton Quito: road from Cotocollao, near Nono, 2987 m., *Mexia* 7661 (POM, US); Volcán de Pichineha, 3500–4000 m., *Mexia* 7654 (POM, US); La Chorera, above Quito, *Balls* 7234 (US); Pichineha, Jameson 73 (NY); sive Andium Quitensium, Jameson 42 (GH), 30 (NY); Andes of Quito, Jameson (US); in declivitate montis Pichineha, 3000 m., *Hartweg* 988, type no. *ampliata* at Berlin (photo F, POM); Rucu Pichineha, Bonpland 3115, Herb. Mus. Paris (F), *Humboldt* 3115 at Berlin (photo F, POM). AZUAY: between Oña and Cuenca, *Hitchcock* 21603, type no. *Hitchcockii* (GH, NY, US).



(22) **Fuchsia Pringsheimii** Urban

(Plate 4, fig. 19)

*Fuchsia Pringsheimii* URBAN, Symb. Antill., 1:375, 1898-1900.

Shrub 1-2 m. tall, openly branched, the ultimate branchlets purplish, 1-2 mm. thick, fine-pubescent; leaves opposite, fairly near each other, not much reduced upward, subcoriaceous, strongly bicolorous, ovate-elliptic, to rhomboid-elliptic, acute at base, acute to acuminate at apex, somewhat remotely serrulate, in maturity mostly subglabrous except on veins of both surfaces. principal lateral veins 3-4 on each side of midrib; petioles 4-7 mm. long; blades 1.5-2.5 cm. long, 0.5-1 cm. wide; flowers in axils of upper leaves; pedicels subglabrous, 2-5 cm. long; hypanthium funnelliform, 23-26 mm. long, red, glabrous without and within, constricted above ovary, then with tubular portion about 2 mm. wide, 10-15 mm. long, the upper expanded portion 10-15 mm. long, 8-12 mm. wide; sepals red, lanceolate, acuminate, glabrous, 18-22 mm. long, 7-8 mm. wide at base; petals red, equalling or slightly exceeding sepals, obovate; episepalous stamens almost as long as petals, anthers 3 mm. long; epipetalous slightly shorter, the anthers 2.5 mm. long; style glabrous, equalling petals or up to 5 mm. longer; stigma clavate, slightly 4-lobed, 2 mm. long; berry ellipsoid, 10-14 mm. long, half as thick.

Type locality, "Valle nuevo," Santo Domingo, at 2100 m., the type *Eggers 2159*. The species differs from *F. triphylla* by having the flowers in axils of reduced leaves not in an inflorescence, leaves more glabrous, and by sepals and petals being longer in relation to the hypanthium. It and *F. triphylla* and *ayavacensis* seem to be related in their ampliate hypanthium and wide petals. I have seen the following specimens of *Pringsheimii*: HAITI: Massif de la Pelle, Pétionville, Morne La Visite, at 2100 m., *Ekman H 1450* (US). SANTO DOMINGO: prope Constanza in Valle nuevo, 2300 m., *von Tuerckheim 3151* (F, GH, NY, US). A collection from Massif de la Pelle, Marigot, near Jardins Bois-Pin, Haiti, *Ekman H 1260* (US) has leaves of *triphylla* and flowers of *Pringsheimii*.

(23) **Fuchsia triphylla** L.

(Plate 4, fig. 20)

*Fuchsia triphylla* L., Sp. Pl., 1191, 1753.

Apparently semishrubby, 3-5 dm. tall; stems 1 to few, simple or few-branched, the younger ones reddish, densely pubescent, 2-4 mm. thick; leaves ternate or quaternate or opposite, the lower ones remote, middle and upper crowded, coriaceous, lanceolate to lance-ovate, acute to acuminate at both ends, subentire to serrulate, often with inrolled margin, bicolorous, often reddish on veins, fine-pubescent on both surfaces; petioles pubescent, 3-10 (20) mm. long; main blades 3-8 (10) cm. long, 1-3 (4.5) cm. wide; uppermost reduced to leafy lanceolate or lance-ovate bracts; flowers several, pendulous, in dense terminal racemes; pedicels 15-20 (30) mm. long, rather slender, pubescent; hypanthium slightly contracted then expanded, funnelliform, red,

pubescent without, glabrous within, the tubular part 1.5–2 mm. wide, 8–16 mm. long, the expanded part 4–7 mm. wide, 15–20 mm. long; sepals red, lanceolate, erect, acuminate, 8–13 mm. long, 4–5 mm. wide at base, puberulent; petals red at apex, apparently lighter toward base, ovate-oblong, 8–10 mm. long; stamens as long as or two-thirds as long as petals; anthers 2–2.5 mm. long; style glabrous, scarcely equal to sepals; stigma conic, not much lobed, 1.5 mm. long; berry subglobose, at least 1 cm. long.

Type locality, "Habitat in America" according to Linnaeus who refers to Plumier, Gen., 14, 1703, where the genus *Fuchsia* was founded with a rude drawing (cf. Pl. 16, figs. 92–95) Linnaeus basing *F. triphylla* on Plumier. Lamarek, Encyc. 2:565, 1786, said that Plumier had found the species in the Island of Santo Domingo, in uncultivated places, in going from the region "de la Bande du Sud à celui qu'on nomme le grand Cul-de-sac." Linnaeus placed the genus under Tetrandria Monogynia, but in the Gen. Pl. ed. 2, 53, 1764, observed: "Plumier in Generibus stamina quator, in Historia vere saepius octo pingit." Presumably then, the species should have been described as having eight stamens and coming from Santo Domingo. Of the specimens listed below, there seem to be two forms: one with leaves heavy, lanceolate, 1–2 cm. wide; the other less thick, 2–4.5 cm. wide. In the first may be cited: HAITI: vicinity of Mission, Fonds Varettes, at 1000 m., *Leonard 3681* (NY, US), *3701* (NY, US). Belonging to the second group are: HAITI: Massif de la Selle, Pétionville, at 1600 m., *Ekman H 1170* (US). SANTO DOMINGO: Prov. de la Vega, ad ripam fontis Yaque at 1200 m., *Padre Miguel Fuertes 1720* (NY); prope Jarabacoa, 700 m., *Fuertes 1619* (NY); Constanza, *Abbot in 1919* (US), *von Tuerckheim 2956* (F, GH, NY, US), *3541* (NY). Perhaps more material may show that these forms should be separated taxonomically.

#### (24) *Fuchsia petiolaris* H.B.K.

*Fuchsia petiolaris* H.B.K., Nov. Gen. et Sp., 6:104, 1823.

Erect bushy shrubs or somewhat scandent, up to 2 m. tall; younger twigs reddish, but covered with a fine ashy appressed puberulence, terete, 1–3 mm. thick; leaves elliptical to elliptic-ovate, rather dense, membranaceous, touched with purple, obtuse to acute at both ends, remotely serrulate, with 5–7 main veins on each side of midrib and with submarginal vein, minutely puberulent on both surfaces, somewhat paler on lower surface than upper; blades mostly 1.5–5 (8) cm. long, 1–2.5 cm. wide; petioles slender, 5–15 mm. long; stipules subulate, 1–1.5 mm. long, fairly persistent; flowers in uppermost axils, sometimes almost racemose; pedicels minutely strigulose, slender, 1.5–2.5 cm. long; ovary strigulose-puberulent, 3–4 mm. long; hypanthium red, 3–3.5 mm. wide at base, then 2–3 mm. wide for length of 1 cm., then rather abruptly ampliate until 8–11 mm. wide just below the slightly constricted summit, 3.5–5 cm. long, strigulose-puberulent without, somewhat pilose within lower portion; sepals deltoid-lanceolate, 16–18 mm. long, 6–7 mm. wide, acuminate, more or less subulate for terminal 1–2 mm., red, finely strigulose-puberulent on backs,

glabrous on upper surface; petals deep red, lance-oblong, 15–17 mm. long, 4–5 (8) mm. wide, acute, frequently strigulose-puberulent on backs; stamens 12 and 8 mm. long; anthers 2.5–3 mm. long; style sparsely pilose in lower portion, equalling sepals; stigma 2 mm. wide; berry almost globose when pressed, 8–10 mm. long.

This and the species that follow differ from the three previous ones by their narrower petals, and resemble them in the long, more or less ampliate hypanthium and the axillary or subterminal flowers.

KEY TO VARIETIES OF *Fuchsia petiolaris*

- A. Leaf-blades 2–3 times as long as wide; petals 4–5 mm. wide. . . . . 24a. var. *typica*.  
 AA. Leaf-blades 4–5 times as long as wide; petals 7–8 mm. wide. . . . . 24b. var. *bolivarensis*.

(24a) *Fuchsia petiolaris* H. B. K. var. *typica* Munz, new name  
 (Plate 4, fig. 21)

*F. petiolaris* H. B. K., Nov. Gen. et Sp., 6:104, 1823.

*F. quinduensis* H. B. K., l.c., 105; I have seen a portion of the type collection.

*F. curviflora* BENTH., Pl. Hartweg., 177, 1845; type from near Bogotá, and not seen by me.

*Mutis* 1365 compared with type by Johnston seems to agree thoroughly and was seen.

Leaf-blades, 1.5–5 cm. long, one half to one third as wide; petals 4–5 mm. wide.

Type locality, Santa Fé de Bogotá, Cundimarcia, Colombia. Representative material, all from COLOMBIA: without locality, *Mutis* 1365 (US), 1366 (US), 1360 (US). Cundimarcia: Bogotá, *Dawe* 93 (US), *Ariste-Joseph* 56 (US); Páramo de Cruz Verde, near Bogotá, *Pennell* 2056 (NY); Santa Fé de Bogotá, *Humboldt*, Humboldt Herb. at Berlin (photo F, POM) and leaf from Bonpland Herb. at Paris (F); Río San Cristóbal, near Bogotá, *Pennell* 2379 (GH, NY, US). Caldas: sw. of Ruiz, Termales, 3400 m., *Cuatrecasas* 9218-A (US); Quindío La Línea, *Dryander* 1939 (US). Caldas or Tolima?: Quindío, *Humboldt*, Willdenow Herb. at Berlin, type no. *quinduensis* (photo F, POM), fragment from Bonpland Herb. at Paris (F). Tolima: Volcancito, *Holton* 896 (GH, NY); *Ibagué*, at 1300 m., *André K* 817 (F, GH, NY); Rosalito near Páramo de Ruiz, *Pennell* 3131 (F, GH, NY, US); along divide near Quindío Highway, 3300–3500 m. *Killip and Varela* 34600 (POM, US). Comisaría del Putumayo: Corregimiento El Encano, Laguna de la "Cocha," *García Barriga* 7836 (US); Páramo El Tabano, 3300 m., *García Barriga* 7843 (US); Páramo de Faliano, *García B. no.* 4560 (US).

(24b) *Fuchsia petiolaris* H. B. K. var. *bolivarensis* Munz, new var.  
 (Plate 4, fig. 22)

Leaf-blades lanceolate, 5–7.5 cm. long, 12–14 mm. wide; petals obovate, 7–8 mm. wide. (Folia lanceolata, 5–7.5 cm. longa, 1.2–1.4 cm. lata; petalis obovatis, 7–8 mm. latis).

Type: Colombia: **Bolívar: below Páramo de Chaquiro, Cordillera Occidental, 2800–3100 m., II-24-1918, F. W. Pennell 4324 (NY).** Like var. *typica* in puberulence, flower-size, etc.

(25) **Fuchsia Smithii** Munz, new species

(Plate 4, fig. 23)

Low shrub to woody vine up to 2-3 m. tall, with drooping branches, the ultimate ones reddish to purplish, more or less ferruginous-villous, terete, 1.5-2.5 mm. thick, older ones with exfoliating epidermis; leaves mostly ternate, sometimes opposite, elliptic to elliptic-ovate or -obovate, obtuse to acute at both ends, or abruptly acuminate at apex, plainly remote-serrulate, pubescent and green above or glabrescent except on veins, paler beneath and generally pilose or only so along the veins, membranaceous, with 9-11 principal veins on each side of midrib and with submarginal vein; leaf-blades 2.5-8 cm. long, 1-2.5 (3.5) cm. wide; petioles slender, villous-pubescent, 5-12 mm. long; stipules subulate-lanceolate, 1-1.5 mm. long, deciduous; flowers in upper axils; pedicels rather slender, pubescent, 2.5-4 (6) cm. long; ovary oblong, pubescent, 6-7 mm. long, 1.5-2 mm. thick; hypanthium tubular, pinkish red to purplish red, 4-5.5 cm. long, 3-4 mm. wide at base, then narrowed to 2-3 mm. for 1.5-2 cm., then rather abruptly widened to 7-9 mm. until near the sometimes slightly constricted apex, loosely pubescent to almost glabrous without, pilose within most of its length; sepals divergent, lanceolate, light to deep red, acuminate with subulate tips ea. 1 mm. long, subglabrous to somewhat pilose on both surfaces, 13-16 (20) mm. long, 5-6 mm. wide; petals dark red to lighter, narrowly oblong-ovate, 13-18 mm. long, 5-6 (8) mm. wide, acute, often erose-margined, usually pilose on back along median line; stamens 11-13 and 9-10 mm. long, red; anthers cream, 2-3 mm. long; style pilose on lower portion, equaling petals; stigma 2.5 mm. thick; berry dark, broadly ellipsoid, 12-15 mm. long, 8-10 mm. wide.

Frutex erectus vel scandens, ad 2-3 m.; ramulis ferrugineo-villosis, 1.5-2.5 mm. diametro; foliis ternatis vel oppositis, ellipticis, elliptico-ovatis vel -obovatis, obtusis vel acutis vel abrupte acuminatis, in superficie superiore pubescentibus, inferiore pilosis, membranaceis; laminis 2.5-8 cm. longis, 1-2.5 (3.5) cm. latis; petiolis tenuibus, villosopubescentibus, 5-12 mm. longis; floribus axillaribus; pedicellis pubescentibus, 2.5-4 (6) cm. longis; ovario oblongo, pubescente, 6-7 mm. longo; hypanthio tubuloso, 4-5.5 cm. longo, basi 3-4 mm. lato, supra 2-3 mm. lato, versus apicem 7-9 mm. lato, exteriori pubescente ad glabro, interiori piloso; sepalis divergentibus, lanceolatis, acuminatis, 13-16 (20) mm. longis, 5-6 mm. latis, subglabris vel pilosis; petalis oblongo-ovatis, 13-18 mm. longis, 5-6 (8) mm. latis, acutis, pilosis; staminibus 11-13 et 9-10 mm. longis; antheris 2-3 mm. longis; stylo piloso, petalis aequalibus; stigmate 2.5 mm. lato; bacea late ellipsoidea, 12-15 mm. longa, 8-10 mm. lata.

*Type:* Dept. Santander: vicinity of Vetas, Colombia at 3100-3250 m., open rocky hillsides, Jan., 1927, *E. P. Killip and Albert C. Smith 17300*, at Gray Herbarium; istotypes (F, NY, US). The proposed species is near *F. petiolaris* of the western Cordillera of Colombia in having pubescence on the back of the petals and in many features, but differs in the coarser longer pubescence, larger leaves, longer pedicels, larger fruit and eastern range. Other material representative, COLOMBIA: Santander del Norte: west slope



of Páramo del Hatico, Toledo to Pamplona, 2800 m., *Killip and Smith 20714* (GH, NY, US); between Mutiscua and Pamplona, 3400 m., *Killip and Smith 19734* (GH, NY, US); east slope of Páramo de Santurbán, toward Mutiscua, 3600–3900 m., *Killip and Smith 19599* (GH, NY, US); Pica-Pica Valley above Tapatá north of Toledo, *Killip and Smith 21121* (GH, NY). Santander: Páramo de Romeral, 3800–4100 m., *Killip and Smith 18577* (GH, NY, US); Páramo de las Puentes, above La Baja, 3500–3700 m., *Killip and Smith 18211* (GH, NY, US); Páramo Rico, *Killip and Smith 17771* (GH, NY, US), *17755* (F, GH, NY, US); vicinity of Vetas, *Killip and Smith 17361* (GH, NY, US), *17335* (GH, US), *17386* (GH, US); edge of Páramo de Las Vegas, *Killip and Smith 15734* (F, GH, NY, US), *15610* (GH), between California and Vetas, *Killip and Smith 17236* (GH, NY, US). Boyacá: between Soatá and Cocuy, Páramo del Alto Cañutal, *Cuatrecasas 1183* (US); Valle de la Uvita, *Cuatrecasas 1146* (US), *1161* (US).

(26) **Fuchsia Asplundii** Macbride

(Plate 4, fig. 24)

*Fuchsia Asplundii* MACBRIDE, Field Mus. Nat. Hist., Bot. Ser., 13, pt. 4, no. 1:548, 1941.

Shrub; young twigs apparently dark in color, densely crisp-pubescent, 1–2 mm. thick; leaves ternate or quaternate, membranaceous, broadly elliptic-lanceolate, acute to obtuse at base, acute to subacuminate at apex, subentire, strigose above, more or less pilose beneath especially along veins, principal lateral veins 8–12 on each side of midrib, the submarginal vein well developed; blades 3–8 cm. long, 1–2.5 cm. wide; petioles appressed-pubescent, 1–1.5 cm. long on main cauline leaves, 4–5 mm. on reduced upper leaves; stipules lance-subulate, 1 mm. long, strigose, deciduous; flowers solitary in axils of some of principal leaves, or appearing subterminal; pedicels slender, crisp-pubescent, 1–2.5 cm. long; ovary linear-fusiform, crisp-pubescent, 6–8 mm. long; hypanthium 4–5 cm. long, 2 mm. thick at base, then somewhat narrowed for one-third its length, then gradually ampliate until 5 mm. wide at mouth, crisp pubescent without, pilose within lower half; sepals divergent, 12–14 mm. long, 3 mm. wide, subulate for about 1 mm. at apex, crisp-pubescent on backs, glabrous on upper surface; petals oblong-ovate, 10–12 mm. long, 5–6 mm. wide, obtusish, glabrous; stamens 10–11 and 7–8 mm. long; anthers 3 mm. long; style pilose on basal half, exerted beyond sepals 4–6 mm.; stigma about 1 mm. thick; fruit narrow-ellipsoid, 4-angled, at least 12 mm. long, and 3 mm. wide.

Type from PERU: Dept. Piura: Prov. Huancabamba: above Palambla, at 3000 m., April, 1912, *Weberbauer 6054* (F, GH, US). This species suggests *F. ayavacensis* in the almost terminal flowers, but the hypanthium is narrower, as are the petals. In its narrow petals and pubescent stems it resembles *F. petiolaris* and *F. Smithii*, but the pubescence is crisped, the fruit is more narrow and the range more southern.



(27) *Fuchsia Llewelynnii* Macbride

(Plate 5, fig. 25)

*Fuchsia Llewelynnii* MACBRIDE, Field Mus. Nat. Hist., Bot. Ser., 13, part 4, no. 1:556, 1941.

Shrub 1 m. tall; young twigs finely and closely appressed-puberulent; leaves opposite, rigid, broadly oblong-oblong-lanceolate to -lanceolate, acute at both ends, plainly serrulate, minutely appressed-puberulent above and beneath especially on veins, apparently paler beneath, with about 11-14 principal lateral veins on each side of midrib and with submarginal vein; blades 4-9 cm. long, 1.5-3 cm. wide; petioles 4-8 mm. long; stipules subulate, 2 mm. long, fairly persistent; flowers apparently racemose; pedicels subfiliform, strigulose, 3-5 cm. long; ovary fusiform, strigulose, 5-6 mm. long; hypanthium about 5 cm. long, 2 mm. wide at base, then about 1 mm. wide for 1.5 cm., then rather gradually ampliate until 5 mm. wide at summit, strigulose without, pilose within the lower half; sepals linear-lanceolate, divergent, 14-17 mm. long, 4 mm. wide at base, subulate for 1-2 mm. at apex, strigulose without, glabrous within; petals oblong-lanceolate, 15-16 mm. long, 4-5 mm. wide, acuminate; stamens 12-13 and 10-11 mm. long; anthers 2-2.5 mm. long; style densely pilose on basal portion, exceeding sepals by few mm.; stigma 1.5 mm. thick.

Type from PERU: Dept. Amazonas: La Ventana Road, Chachapoyas to Moyobamba, *Llewelyn Williams* 7594 (F). The type specimen is much broken and rather unsatisfactory; apparently from a plant with long slender racemes. It is near *F. petiolaris* in the puberulence and long pedicels, but the leaves seem larger and with more veins, and the hypanthium is more narrow. It is near *F. Asplundii* in the narrow hypanthium but has much finer puberulence.

(28) *Fuchsia venusta* H.B.K.*Fuchsia venusta* H. B. K., Nov. Gen. et Sp., 6:105, 1823.

Shrub or shrubby vine, the young twigs hirtellous to puberulent or subglabrous, often dark red, 2-6 mm. thick; leaves opposite or ternate, elliptic, rounded to acute at base, acute to acuminate at apex, subentire, subcoriaceous, not much paler beneath than above, subglabrous to puberulent or pubescent on both sides, especially on veins, principal lateral veins mostly 10-15 on each side of midrib, with evident submarginal vein; blades 4.5-8 (10.5) cm. long, 2-3.5 (4) cm. wide; petioles 6-10 mm. long, puberulent to pubescent; stipules triangular-subulate, barely 1 mm. long, deciduous; flowers in a terminal pendant corymbose raceme or in panicles scarcely 1 dm. long; bracts elliptic-lanceolate, 1-2 cm. long; pedicels 1-3 cm. long, almost filiform, glabrous to pubescent; ovary oblong, 6-7 mm. long, ca. 2 mm. thick; hypanthium tubular, red, subglabrous to glandular-pubescent without, villous within lower portion, 3-4 cm. long, 2.5-3 mm. wide at base, then about 2 mm. wide for one-third its length and gradually widened until 6-7 mm. broad at summit; sepals lanceolate, acuminate, the connivent tips subulate for 3-4 mm., sepals red, glabrous

to pubescent on backs, pubescent within, more or less spreading, 15–17 (20) mm. long, 3–4 mm. wide; petals carmine, oblong-lanceolate, abruptly acute, more or less pubescent on backs, 15–18 (20) mm. long; stamens 12–13 (15) and 9–10 (12) mm. long, glabrous; anthers 2.5–3 mm. long; style slender, densely villous through much of its length, extending to about tips of sepals; fruit oblong, up to 14 mm. long and 7 mm. wide.

This species is characterized by its short elliptic coriaceous leaves, terminal inflorescence, short petioles, long pedicels; sepals hairy on inner surface as well as outer, petals hairy on backs. In the more or less ampliate hypanthium and subterminal flowers it agrees with those immediately preceding and following in this treatment. There are two forms as to pubescence which I am recognizing as varieties.

KEY TO VARIETIES OF *Fuchsia venusta*

- A. Young twigs, petioles, hypanthia pubescent with short spreading hairs. 28a. var. *typica*.  
 AA. Young twigs, petioles, hypanthia glabrous to minutely puberulent with more or less appressed hairs. . . . . 28b. var. *huilensis*.

(28a) *Fuchsia venusta* H. B. K. var. *typica* Munz, new variety

(Plate 5, fig. 26)

*F. venusta* H. B. K., Nov. Gen. et Sp., 6:105, 1823.

Hairs on young growth and flowers spreading.

*Type* locality: near **Guayavalito, Colombia**. Ranging in the eastern Cordillera of Colombia in Santander and Cundimarca. Representative material, COLOMBIA: Guayavalito (exact locality not determined), *Humboldt*, ex Willdenow Herb. 7301 (photo F, POM), Bonpland Herb. ex Mus. Paris (fragment F). Without locality, *Mutis 1370, 1362, 1367, and 1369* (all at US); eastern Cordillera, *Bro. Ariste-Joseph A893* (US). Santander: Chiquinquirá, *Ariste-Joseph A 842* (US). Cundimarca: Tena, *Dawe 23* (US); Bogotá, *Schultze 69* (US), *Ariste-Joseph A229* (US); Salto de Tequendama, 2500 m., *Cuatrecasas 48* (US); Cordillère de Bogotá, 1800–2600, *Triana 3814* (NY, US); ad cataractam Tequedamam, *Holton 894* (GH, NY); Páramo de San Fortunato et prope pagum Fusagasuga, *Hartweg 995* (NY).

(28b) *Fuchsia venusta* H. B. K. var. *huilensis* Munz, new variety

Young growth, hypanthia, etc., glabrous to minutely appressed puberulent. (Ramula, petiola, et hypanthia glabra vel minute striguloso-puberulenta).

*Type*: from **Huila, Colombia: Cordillera Oriental, east of Neiva, forest at 1800–2300 m.**, *Rusby and Pennell 874*, (NY); isotypes (F, GH, US). Material to be referred here comes from two widely separate regions, VENEZUELA: Mérida: Páramo de Aricagua, 2700 m., *Jahn 1029* (GH, US). Táchira: Páramo de Angaraveca, 2400 m., *Jahn 129* (US). COLOMBIA: Cundimarca: Dintel (Facatativá-La Vega) 2700–2300 m., *Pérez A. and Cuatrecasas 5291* (US); Une, in montibus ad orient. Bogotae, *Holton 895* (NY). Tolima: Libano, 1900–2200 m., *Pennell 3197* (GH, NY, US). Huila:

Cordillera Oriental, east of Neiva, *Rusby and Pennell 641* (GH, NY, US); "Balsillas" on Río Balsillas, 2000–2300 m., *Rusby and Pennell 918* (NY); 722 (GH, NY, US), 809 (NY, US).

(29) **Fuchsia Jahni** Munz, new species

(Plate 5, fig. 27)

Apparently a scandent shrub with younger twigs very slender, 1–2 mm. thick, drooping, somewhat purplish, puberulent with appressed hair; leaves opposite or ternate, elliptic, rounded to acute at base, short-acuminate at apex, remotely denticulate, minutely pubescent on both surfaces, darker green above than beneath, membranaceous, with about 10–12 principal veins on each side of the midrib and with submarginal vein; blades 3–8 cm. long, 1–3 cm. wide; petioles 6–15 mm. long, more or less strigulose; stipules lance-subulate, ca. 2 mm. long, deciduous; flowers few in terminal corymbose raceme, sometimes also axillary; bracts 1–2 (3) cm. long; pedicels filiform, strigulose, 2–4 cm. long; ovary broadly fusiform, strigose, 5–6 mm. long; hypanthium red, tubular, 3.5–4 cm. long, strigulose without, villous within, 2.5–3 mm. wide at base, then 1.5–2 mm. thick and very gradually widened until 7–8 mm. wide toward the mouth; sepals red, lanceolate, spreading, 18–20 mm. long, 3.5–4 mm. wide, acuminate (the connivent tips subulate for 3–4 mm. in bud), strigulose without, glabrous within; petals light red, oblong-oblanco-olate, 18–20 mm. long, abruptly acute, somewhat strigulose on back toward base; stamens 16–18 and 12–14 mm. long, glabrous; anthers 2.5–3 mm. long; style slender, retrorse-villous, projecting about as far as petals; stigma subglobose, slightly lobed, 2 mm. wide; berry almost globose, strigulose, about 12 mm. long, 10–11 mm. wide.

Frutex scandens; ramulis subpurpureis, strigulosis; foliis oppositis vel ternatis, ellipticis, basi rotundatis vel acutis, apice breviter acuminatis, remote denticulatis, minute pubescentibus, membranaceis, laminis 3–8 cm. longis, 1–3 cm. latis; petiolis 6–15 mm. longis, substrigulosis; floribus paucis, subracemosis; bracteis 1–2 (3) cm. longis; pedicellis filiformibus, strigulosis, 2–4 cm. longis; ovario late fusiformi, strigoso, 5–6 mm. longo; hypanthio rubro, tubuloso, 3.5–4 cm. longo, externe striguloso, interne villosa, base 2.5–3 mm. lato, inde 1.5–2 mm. lato, inde gradatim ampliata, usque ad apicem 7–8 mm. lato; sepalis rubris, lanceolatis, divergentibus, 18–20 mm. longis, 3.5–4 mm. latis, acuminatis, strigulosis, cum apicibus subulatis 3–4 mm. longis; petalis roseis, oblongo-oblanco-olatis, 18–20 mm. longis, abrupte acutis, basi et extrinsecus substrigulosis; staminibus 16–18 et 12–14 mm. longis; antheris 2.5–3 mm. longis; stylo tenui, retrorsovillosa, petalis aequalibus aequescente; stigmatibus subglobosis, 2 mm. lato; bacca subglobosa, strigulosa, 11–12 mm. longa.

*Type*: Mérida, Venezuela, Páramo de la Sal, 2800 m., Sept. 2, 1921, *Jahn 506* U. S. Nat. Herb. 1186509; isotype Gray Herb. Another collection, Mérida: Páramo de Piñango, 2600 m., *Jahn 402* (US). Apparently closely related to *F. venusta* and characterized by a few flowers, strigulose condition, spreading sepals with long subulate tips, hair on back of petals, [and big round fruit.

(30) **Fuchsia Gehrigeri** Munz, new species

(Plate 5, fig. 28)

Subscandent shrub 3-5 m. tall, with slender, ultimate, reddish, drooping branchlets 1-2 mm. thick, subglabrous or somewhat villous about the nodes and toward the inflorescence, somewhat reddish; leaves opposite or ternate, membranaceous, elliptic, acute to subacuminate at both ends, serrulate, green and minutely strigulose above, pale beneath and pubescent along the veins, principal lateral veins 7-10 on each side of midrib, submarginal vein scarcely evident; blades 3-6 cm. long, 1.5-2.5 (3) cm. wide; petioles slender, 10-18 mm. long, subglabrous to pubescent; stipules subulate, 1 mm. long, deciduous; flowers few, in terminal clusters of about 2 whorls, pendant, dark red; bracts 1-1.5 cm. long; pedicels slender, 1.5-2 cm. long, more or less spreading-villous; ovary broadly fusiform, 5 mm. long, densely spreading-villous; hypanthium tubular, 4-5 cm. long, 2 mm. wide at base, then narrower for one-third its length, and rather abruptly widened until 7-8 mm. wide at summit, villous without and within; sepals lanceolate, divergent, 14-15 mm. long, 4 mm. wide, acuminate (subulate tips connivent and 1 mm. long in bud), pubescent on back, glabrous on inner surface; petals dark red, elliptic-oblong, obtuse-erose, ca. 14 mm. long and 6 mm. wide, sparsely villous on back near the base; stamens 9-10 and 7-8 mm. long; anthers 2 mm. long; style pubescent on lower portion, exceeding sepals by 3-5 mm., quite thick toward the somewhat lobed stigma (1.5-2 mm. wide); fruit subglobose, somewhat villous.

Frutex subscandens, 3-5 m. altus; ramulis tenuibus, subrubris, 1-2 mm. diametro, subglabris vel subvillosis in nodis et ad inflorescentiam; foliis oppositis vel ternatis, membranaceis, ellipticis, basi et apice acutis vel subacuminatis, serrulatis, in superficie superiore viridibus et minute strigulosis, inferiore pallidis et in venis pubescentibus; laminis 3-6 cm. longis, 1.5-2.5 (3) cm. latis; petiolis tenuibus, 10-18 mm. longis, subglabris vel pubescentibus; floribus paucis, in inflorescentia terminali, subrubris; bracteis 1-1.5 cm. longis; pedicellis tenuibus, 1.5-2 cm. longis, subvillosis; ovario late fusiformi, 5 mm. longo, villosa; hypanthio tubuloso, 4-5 cm. longo, basi 2 mm. lato, inde angustiore, inde abrupte ampliato, ad apicem 7-8 mm. lato, externe et interne villosa; sepalis lanceolatis, divergentibus, 14-15 mm. longis, 4 mm. latis, acuminatis, externe pubescentibus, apicibus subulatis 1 mm. longis; petalis elliptico-oblongis, obtuso-erosis, 14 mm. longis, 6 mm. latis, sparse externe villosis; staminibus 9-10 et 7-8 mm. longis; antheris 2 mm. longis; stylo pubescenti, quam sepala 3-5 mm. longiore; stigmatibus 1.5-2 mm. lato; fructu subglobose, subvillosa.

*Type*: from Mérida: Mucurubá, Venezuela, 2800-3100 m., July 14, 1930, W. Gehriger 322, U. S. Nat. Herb. 1515306; isotypes F, GH, NY. This species is near *F. Jahni* in its leaves, few flowers, round fruit, and petals with hair on the back, but the pubescence is longer and more spreading, the pedicels are shorter; sepal-tips shorter; flowers smaller, and sepals are less spreading.

(31) **Fuchsia simplicicaulis** Ruiz and Pavón

(Plate 5, fig. 29)

*Fuchsia simplicicaulis* RUIZ and PAVÓN, Fl. Peruv., 3:89, pl. 322, 1802.

Shrub, apparently growing up through other shrubs, up to 4.5 m. tall; stems slender, the ultimate branchlets pendant, scarcely 1 mm. thick, glabrous



except for the puberulent inflorescence; leaves in remote whorls of 4, linear-lanceolate, coriaceous, glabrous, subentire, obtuse to acute at base, acuminate at apex, not strongly bicolored, with 20 or more principal lateral veins on each side of midrib, and with submarginal vein, 8–15 cm. long, 1.5–2 (2.5) cm. wide; petioles 2–4 mm. long; stipules subulate, ca. 1 mm. long, deciduous; inflorescence a simple or few-branched hanging puberulent raceme 2–3 dm. long, with remote whorls of 4 submembranaceous lance-ovate, acuminate, green bracts 2–4.5 cm. long and 6–14 mm. wide; flowers one in each axil, bright red with slightly purplish tinge; pedicels 4–7 mm. long, 12 mm. in fruit; ovary puberulent, ellipsoid, 5–6 mm. long, 1.5–2 mm. thick; hypanthium tubular, 4–5.5 cm. long, puberulent without and within, ca. 3 mm. wide at very base, then 1.5 mm. for two-fifths its length, then rather gradually ampliate and tubular, 5–6 mm. wide at summit; sepals 4, linear-lanceolate, puberulent, acuminate, 16–18 mm. long, 4 mm. wide, somewhat divergent; petals red, linear-lanceolate, acute, 11–12 mm. long, 2–2.5 mm. wide; stamens ca. 14 and 10 mm. long; anthers 3 mm. long; style pubescent in lower hypanthium, slightly exceeding petals; fruit oblong, puberulent, at least 8 mm. long.

Type locality, Muña, Peru. Specimen seen, PERU: Húanuco: Muña, at 2200 m., May 23–June 4, 1923, *J. F. Macbride 4014* (F, GH, US); photo of Ruiz and Pavón specimen from Muña at Madrid (F, POM). This species stands apart from all others in its almost linear leaves and bracts in whorls of 4, in its long pendant twigs, and in its puberulence. It agrees with *F. petiolaris* and *F. venusta* in its subterminal inflorescence, slightly inflated hypanthium and narrow petals.

### (32) *Fuchsia confertifolia* Fielding and Gardner

(Plate 6, fig. 30)

*Fuchsia confertifolia* FIELDING and GARDNER, Sert. Pl., pl. 28, 1844.

*F. dolichantha* KRAUSE, Fedde, Rep., 1:172, 1905; based on Weberbauer 4390 from the Chachapoyas region in which Mathews collected, *confertifolia* being based on a Mathews type.

Erect shrub up to 2 m. tall, much branched, the young twigs 1.5–3 mm. thick, densely ferruginous-hirsute; leaves opposite to ternate or quaternate, crowded, spreading-reflexed, oblong-ovate, rounded to acute at base, acute at apex, entire to subdenticulate, glabrous on both surfaces or sparsely hairy beneath on veins, principal lateral veins obscure, 3–4 on each side of midrib; blades 12–16 mm. long, 3–4 (6) mm. wide; petioles 1–2 mm. long; stipules dark, glabrous, subulate, 1–1.5 mm. long, persistent; flowers very few, subterminal, pendant; bracts about 5 mm. long, 1.5 mm. wide; pedicels 1–1.5 cm. long, up to 2 cm. in fruit, villous; ovary oblong, 4–5 mm. long; hypanthium dark red, tubular, 4–5 cm. long, slightly enlarged at very base and 1.5–2 mm. wide, then narrowed for one-third its length, then abruptly widened and subcylindric until 6–8 mm. wide at and below the summit, sparsely villous without, more densely so within; sepals linear-lanceolate, divergent, 16–18 mm.



long, acuminate, scarcely subulate at tips, sparsely villous without, glabrous within; petals red, elliptic-lanceolate, acuminate, glabrous, 12–13 mm. long, 3 mm. wide; stamens about 13 and 9 mm. long; anthers 2.5 mm. long; style pilose near base, equal to sepals; stigma capitate, slightly lobed, 2 mm. wide; fruit ellipsoid, ca. 1 cm. long.

Type locality, "Peru." Specimens seen, PERU: Dept. Amazonas: between Jumbilla and San Carlos, 3000 m., *Weberbauer 7153* (F, GH); ab Chachapoyas at orientem versus Tambo Ventillas, *Weberbauer 4390*, type *dolichantha* at Berlin (photo F, POM).

(33) **Fuchsia Aspiazui** Macbride

(Plate 6, fig. 31)

*Fuchsia Aspiazui* MACBRIDE, Field Mus. Nat. Hist., Bot. Ser., 19, part 4, no. 1:547, 1941.

Shrub up to 2 m. tall, the younger branches 4–6 mm. thick, minutely strigulose under a lens, greenish, terete; leaves opposite, elliptic-ovate to -obovate, subentire, apparently rather fleshy, glabrous on casual inspection, but minutely strigulose under a lens, cuneate at base, rather abruptly acuminate at apex, yellowish green and much alike on both surfaces, conspicuously veined, the main laterals 18–24 on each side of the midrib, with evident submarginal vein; blades 8–20 cm. long, 4–10 cm. wide; petioles 1–2 (3.5) cm. long; stipules lance-deltoid, 2–3 mm. long, sometimes fused in pairs, deciduous; inflorescence a terminal strigulose pendant raceme with rather numerous flowers; bracts reflexed, lanceolate, 1–2 cm. long; pedicels 8–12 mm. long; ovary linear, 5–8 mm. long, 1 mm. thick, glabrous to somewhat strigulose; hypanthium blood-red, tubular, 3–5 cm. long, slightly bulbous at base, then about 1 mm. wide and very gradually ampliate toward the summit where it is 4–5 mm. wide, practically glabrous without, retrorse-pubescent within basal part; sepals divergent, red, lanceolate, 12–15 mm. long, 3–4 mm. wide, acute, without free tips in bud; petals oblong, obtuse, about 1 cm. long, 3.5 mm. wide; stamens about 8 and 6 mm. long; anthers barely 2 mm. long; style quite glabrous, extending about to the end of the petals; immature berry linear-oblong, 12 mm. long, 3.5 mm. wide.

Based on a collection from valley of the Río Mixiollo, Prov. Pataz, Dept. Libertad, PERU, 2300–2500 m., *Weberbauer 7042* (F, GH, US). Characterized by its glabrous condition, large leaves with many veins, short pedicels, and glabrous style, it comes in the group of species with large leaves, short terminal inflorescence, and narrow long hypanthium.

(34) **Fuchsia tinctoria** Johnston

(Plate 6, fig. 32)

*Fuchsia tinctoria* JOHNSTON, Journ. Arn. Arb., 20:242, 1939.

Shrub, 1–1.5 m. tall, the young twigs more or less brownish red, 1–5 mm. thick, puberulent or finely pubescent with somewhat brownish hairs; leaves opposite, membranaceous, elliptic-ovate to -obovate, rounded to obtuse at base,

acute to subacuminate at apex, remotely serrulate, more or less purplish especially beneath, finely pubescent on both sides, even somewhat short-pilose on veins beneath, the principal lateral veins 16–18 on each side of midrib, the submarginal vein present; blades 5–12 (15) cm. long, 3–8 (10) cm. wide; petioles 1–4 (6) cm. long; stipules subulate, 1 mm. long, deciduous; flowers few to several in open terminal finely pubescent corymbose racemes; bracts rather leafy, 1.5–3 cm. long; pedicels slender, pubescent, 1.5–3 cm. long; ovary linear-fusiform, pubescent, 4–5 mm. long; hypanthium 20–25 (35) mm. long, deep crimson, 1.5–2 mm. wide at base, then narrowed for one-third its length, then gradually widened to 3–4 mm. at summit, rather sparsely villous without, villous within lower two-thirds; sepals crimson, divergent, 8–10 mm. long, 3.5 mm. wide at base, subulate for 0.5–1 mm. at apex, villous on backs; petals crimson-scarlet, oblong-ovate, 7–8 mm. long, 4–5 mm. wide, erose-rounded to obtusely mucronate at apex; stamens about 8 and 6 mm. long; anthers 1.5 mm. long; style pilose in basal portion, equaling sepals; stigma 1–1.5 mm. wide; berry ellipsoid-oblong, 8–12 mm. long, 4.5–6 mm. wide.

Type locality, PERU: dept. Cuzco, prov. Paucartambo: Río Tambomayo at 1800–2200 m., the type collection being *West 7092* (GH), another collection from the same locality: *West 7110* (GH). I have seen also from Cabecera de montaña de Paucartambo, at 2000 m., *Vargas 73/7110* (F, POM) and “Pilla-huata,” Cerro de Cusilluyoc, 2000–2400 m., *Pennell 13956* in large part (F, NY, US). The species is near *F. ovalis* in its wide leaves, but the racemes are terminal, the pubescence shorter, the stipules shorter and the hypanthium longer. When the hair is not too brown, it suggests *F. boliviana*, but the sepals are not reflexed-spreading. In its long-tubed flowers it resembles *F. furfur-acea*, but the sepals are shorter and the plant is less pilose.

### (35) *Fuchsia Mathewsii* Macbride

*Fuchsia Mathewsii* MACBRIDE, *Candollea*, 8:24, 1940; *Field Mus. Nat. Hist., Bot. Ser.*, 13, pt. 4, no. 1:558, 1941.

Branches and petioles and lower leaf-surface densely rusty-pilose; leaves ternate, broadly elliptic, abruptly narrowed at base, acute at apex, obscurely denticulate to subentire, minutely pilose above, densely so beneath along midrib; blades 1 dm. long; petioles 4–5 mm. long; inflorescence a terminal short-bracted panicle about 5 cm. long; hypanthium 4 cm. long, glabrate without, hirsutulose within lower half; sepals 10 mm. long; petals oblong-obovate, almost as long as sepals.

Based on a collection by Mathews, from Chachapoyas, Amazonas, Peru. Said to be near *F. pilosa*, but differing in its short-petioled leaves, denser shorter rusty pubescence and its larger flowers. I have seen no specimens. The meager description suggests *F. tinctoria* of a more southern distribution and with apparently longer petioles and shorter hypanthium.

(36) **Fuchsia Fischeri** Macbride

*Fuchsia Fischeri* MACBRIDE, Field Mus. Nat. Hist., Bot. Ser., 13, part 4, no. 1:554, 1941.

Shrub, suberect, branched, the young twigs reddish, densely hirsutulous; leaves opposite, oblong-lanceolate, subcuneate at base, acute at apex, subentire to obscurely callose-denticulate, densely soft-pilose on both sides, veins prominent beneath; petioles 2–5 mm. long; stipules subulate, somewhat persistent; inflorescence a terminal leafy-bracted corymb 5–6 cm. long; pedicels 1.5 cm. long; ovary velutinous, 4 mm. long; hypanthium about 4.5 cm. long, swollen at base, then constricted, then ampliate until 4–5 mm. wide at apex, somewhat villous without and within; sepals lanceolate, acuminate, 10–12 mm. long; petals narrowly oblong-lanceolate, short-acuminate, about 9 mm. long; stamens shorter than petals; style pubescent in lower portion, more or less exerted.

Type not seen, based on *Weberbauer 4097* from Hualgayoc, Chugar, Cajamarca, Peru. No specimens available and description meager, but this seems to be a distinct entity near *F. Mathewsii*, perhaps with more narrow leaves.

(37) **Fuchsia Storkii** Munz, new species

(Plate 6, fig. 33)

Tree, or shrub up to 3 m. tall; twigs reddish, pubescent or pilose with reddish hairs; leaves ternate, narrowly elliptic to elliptic-oblancheolate, firm, obtuse to acute at base, acute at apex, remotely serrulate, light green above, pilose to subglabrous or pubescent on veins above, slightly paler and more pilose beneath, principal lateral veins 8–9 on each side of midrib, submarginal veins present; leaf-blades 2–7 cm. long, 1.3–2 cm. wide; petioles reddish-pilose, 4–8 mm. long; stipules lance-subulate, 1.5–2 mm. long, glabrous, fairly persistent; flowers few, in short terminal drooping glandular-pubescent corymbose racemes; bracts lanceolate; pedicels stout, red-pubescent, 2–5 mm. long; ovary ellipsoid, glandular-pubescent to red-pilose, 4–5 mm. long; hypanthium dark red, about 3 cm. long, somewhat bulbous and 1.5–2 mm. wide at base, then somewhat narrowed and then gradually ampliate until 5 mm. wide at apex, glandular-villous without, villous within lower half; sepals deep red, lanceolate, about 12 mm. long, 4 mm. wide, subulate for 1.5–2 mm. at apex, glandular-pubescent; petals deep red, oblong-lanceolate, 7–9 mm. long, 3 mm. wide, sharply acute; stamens about 8 and 6 mm. long; anthers 2 mm. long; style pubescent in lower portion, extending about to sepal-tips; fruit apparently ellipsoid, at least 1 cm. long.

Arbor vel frutex; ramulis rubescentibus, pubescentibus vel pilosis, cum pubescentia rubida; foliis ternatis, anguste ellipticis vel elliptico-oblancheolatis, base obtusis vel acutis, apice acutis, remote serrulatis, in venis superficiei superioris pilosis vel pubescentibus vel subglabris, inferiore pilosioribus; lamina 2–7 cm. longis, 1.3–2 cm. latis; petiolis rubido-pilosis, 4–8 mm. longis; stipulis lanceolato-subulatis, 1.5–2 mm. longis, glabris, subpersistentibus; floribus paucis in racemis brevibus, terminalibus, glanduloso-pubescentibus; bracteis lanceolatis; pedicellis rubido-pubescentibus, 2–5 mm. longis; ovario ellipsoideo,

4-5 mm. longo; hypanthio rubido, 3 cm. longo, base 1.5-2 mm. lato, inde angustiore, inde gradatim ampliato, apice 5 mm. lato, externe glanduloso-villoso, interne baseque villosa; sepalis rubris, lanceolatis, 12 mm. longis, 4 mm. latis, glanduloso-pubescentibus, apice subulatis; petalis rubris, oblongo-lanceolatis, 7-9 mm. longis, 3 mm. latis, acutis; staminibus 8 et 6 mm. longis; antheris 2 mm. longis; stylo pubescente, sepala aequescente; bacca ellipsoidea, ca. 1 cm. longa.

*Type: Cajamarca, prov. Chota, Peru: pass south of Conchan, 2500 m., Dec. 7, 1938, Stork and Horton 10073, Field Museum Herb. 1052248. The reddish condition of the rather long hairs and the narrow leaves are characteristic of this proposed species, which seems near to *F. Fischeri*, but it has a shorter hypanthium and pedicels and red hairs. It is a pleasure to name this for Dr. Harvey Stork of Carleton College.*

(38) ***Fuchsia furfuracea*** Johnston

(Plate 6, fig. 34)

*Fuchsia furfuracea* JOHNSTON, Contr. Gray Herb., 75:39, 1925.

Shrubby, of unknown size, the branchlets dark, sparsely villous-hirsute; leaves opposite, oblong-ovate, obtuse to rounded at base, acuminate at apex, denticulate, brownish-pilose on both surfaces, especially on the veins beneath, with 11-13 principal lateral veins on each side of the midrib; blades 6-9 cm. long, 2.5-4 (5) cm. wide; petioles 8-20 mm. long, pubescent; stipules dark, subulate-lanceolate, 2-3 mm. long; flowers few in terminal racemes; bracts pilose, 1-2 cm. long, lanceolate, dentate; pedicels pubescent-pilose, 2-4 cm. long; ovary elliptic, villous, 6-8 mm. long; hypanthium red, tubular, 3.5-4.5 cm. long, slightly enlarged at base, then constricted so as to be scarcely 2 mm. wide for about half its length, then rather abruptly widened to 6-7 mm. near the cylindrical summit, villous without and within; sepals red, somewhat spreading, lanceolate, 15-20 mm. long, 4 mm. wide, villous on backs, long-acuminate, with free tips 2 mm. long in bud; petals purplish red, oblong-ovate, abruptly acutish, 9-10 mm. long; longer stamens two-thirds the sepals, shorter scarcely one-half the sepals; anthers 2 mm. long; style villous, slightly exceeding sepals; stigma 1.5 mm. thick, subcapitate, slightly 4-lobed; immature berry ellipsoid, barely 1 cm. long.

Type locality, Yungas, La Paz, Bolivia. Material seen, BOLIVIA: La Paz: Yungas, *Bang 674*, type collection (F, GH, NY, US); Unduavi, at 3000 m., *Rusby 2511* (NY). Characterized by its long stipules and pedicels, brown pubescence, long sepal-tips, it seems near to *F. Storkii*, *F. hirtella*, etc., in its large leaves, narrow hypanthium, short terminal inflorescence. The "*F. peruviana*" of Johnston's text accompanying the original description is undoubtedly a misprint for *F. boliviana*.

(39) ***Fuchsia Munzii*** Macbride

(Plate 7, fig. 35)

*Fuchsia Munzii* MACBRIDE, Field Mus. Nat. Hist., Bot. Ser., 13, part 4, no. 1:559, 1941.

Shrub, the younger branches 1.5-3 mm. thick, very finely puberulent, apparently somewhat dark; leaves mostly opposite, sometimes ternate, broadly



elliptic-lanceolate to -ovate or -obovate, subentire to inconspicuously denticulate, the principal lateral veins about 20 on each side of midrib, blades subcuneate at base, acuminate at apex, somewhat bicolored, quite glabrous, 6–15 cm. long, 2.5–4.5 cm. wide; petioles 4–10 mm. long; stipules subulate-lanceolate, about 1 mm. long, caducous; inflorescence a small terminal raceme or panicle, up to 1 dm. long, with rather few flowers, very minutely strigulose bracts linear to lanceolate, 5–20 mm. long; pedicels 5–15 mm. long; ovary linear, 4–5 mm. long, strigulose; hypanthium red, tubular, 4–5 cm. long, slightly enlarged at base, then 1 mm. wide, then very gradually ampliate and tubular, 4 mm. wide, minutely and rather faintly puberulent without, pubescent within; sepals lanceolate, somewhat puberulent, 12 mm. long, about 3 mm. wide, acute, somewhat spreading; petals narrowly oblong, 11–12 mm. long, acute; stamens 9 and 6 mm. long; anthers 2 mm. long; style pubescent in lower portion, extending about to sepal-tips; stigma subglobose, somewhat 4-lobed, 2 mm. thick; berry subglobose, almost 1 cm. long.

Type collection, PERU: Dept. Junín: Río Masamerich, 2100–2200 m., *Weberbauer 6648* (F, GH, US). This species suggests *F. corymbiflora* from which it differs in its more glabrous leaves and rounder fruit.

(40) ***Fuchsia hirtella*** H.B.K.

(Plate 7, fig. 36)

*Fuchsia hirtella* H. B. K., Nov. Gen. et Sp., 6:107, 1823.

*F. caracasensis* FIELDING and GARDNER, Sert. Pl., pl. 29, 1844; based on Linden 368, supposed to be from Caracas, Venezuela, in 1842. The plate and the specimen at US indicate synonymy with *hirtella*.

*Fuchsia miniata* PLANCH and LINDEN, Fl. des Serres, Ser. I, pl. 8, 1852–1853; based on Linden collection from "Nouvelle Grenade." In my key would seem to run to *F. Killipii* on basis of puberulent stems, but cannot be that, since the young growth is not canescent, so must be *hirtella*. I have seen no specimen of Linden, labelled *miniata*.

Shrub to low tree, the younger branches apparently mostly reddish, 2–4 mm. thick, terete, mostly rather densely pubescent with short somewhat appressed and interwoven hairs, older branches exfoliating freely; leaves in whorls of 3 or 4, lance-oblong to elliptic-ovate, rounded to cuneate at base, acute to acuminate at apex, remotely and indistinctly denticulate, strigulose and dark green above, more densely pubescent and paler beneath, membranaceous, with 10–15 principal lateral veins on each side of midrib and rather inconspicuous submarginal vein, the blades 6–12 (14) cm. long, 2.5–4 (5) cm. wide; petioles densely pubescent, 5–20 (35) mm. long; stipules lance-linear, 1–2 mm. long, deciduous; flowers in terminal pendant corymbose racemes which may be grouped in a panicle 1–2 dm. long and equally wide; bracts lance-ovate, mostly 1–2 cm. long, strigulose; pedicels more loosely pubescent, slender, mostly 5–10 mm. long; ovary oblong-fusiform, strigulose-pubescent, 5–7 mm. long, 1.5–2 mm. thick; hypanthium tubular, rose-red, 3–3.5 (4.5) cm. long, 2.5–3 mm. thick at base, then 1.5–2 mm. for about one-third its length and very gradually widened until 6–8 mm. at summit, strigulose with-

out, villous within lower half; sepals 4, red, somewhat divergent, lanceolate, acuminate, subulate for terminal 2 mm., 12–13 mm. long, 2.5–3 mm. wide, strigulose on backs; petals red, lance-oblong, glabrous, acutish, 11–14 mm. long; stamens 10–14 and 6–10 mm. long, glabrous; anthers 2–3 mm. long; style red, filiform, almost or quite glabrous, exerted 4–8 mm. beyond sepals; stigma subglobose, 4-lobed, ca. 2 mm. thick; berry ellipsoid, puberulent, 14 mm. long, 6 mm. wide.

Type locality, in mts. near Fusagasuga, Cundimarcá, Colombia. This species seems near to *F. polyantha* and *F. boliviana* in pubescence, leaves, inflorescence, hypanthium, etc., but distinct in its membranaceous leaves, ascending sepals, and long fruit. It ranges rather widely in Colombia as can be seen from citation of representative material: COLOMBIA: without locality, *Mutis 1364* (US); *Bonpland Herbarium 1783*, probably type material, it is rather fragmentary, a condition referred to in the original description (fragment F). Antioquia: Tamesis, near Medellín, *Toro 965* (NY); San Pedro, *Tomás and Daniel 1306* (F). Caldas: Pinares, above Salento, 2600–2900 m., *Pennell 9195* (GH), *9324* (GH, NY, US); Volcancito, *Holton 893* (NY); Mediación-Quindío, *André 2152* (NY); “Laguneta” to “Magaña,” old Quindío trail, 3000–3300 m., *Pennell 9418* (GH, NY, US); Salento to “Laguneta,” *Pennell 9141* (GH, NY, US); “Laguneta” to “Magaña,” *Pennell 9425* (GH). Tolima; “La Lora” to “Cucarronera,” new Quindío trail, *Hazen 9679* (GH). Cundimarcá: near Bogotá, *Ariste-Joseph* (US); Sibate, 2900–3000 m., *Pennell 2517* (GH, NY, US); El Peñon, *Pennell 2435* (NY); Cortesito, pro. de Mariquita, *Triana 3809 bis* (US); San Miguel, extremo W. de la sabana de Bogotá, *Cuatrecasas 6657* (US). Cauca: “Paletara” to “Calaguala,” 3000–3200 m., *Pennell 7083* (GH, NY, US), *7094* (GH, NY, US); “Canaan,” Mt. Purace, 3100–3300 m., *Pennell 6669* (GH, NY, US). Nariño: Vuleán Galera, near Pasto, *Lehmann 5497* (GH, F, US); Putumayo: Corregimiento El Encano, Laguna de la Cocha, Páramo El Tábano, *García B. 7822* (US). There is considerable variation in amount of hairiness and the more southern more hairy specimens may represent *F. miniata*, but at present I am unable to separate it.

(41) ***Fuchsia polyantha*** Killip, new species

(Plate 7, fig. 37)

Bush, up to about 1 m. high; young stems quite simple, purplish red, minutely and closely appressed-puberulent under a lens, 2–4 mm. thick; leaves not crowded, ternate or quaternate, rigid, more or less rugose, elliptic to broadly oblong-lanceolate, rounded to obtuse at base, acuminate at apex (the apex not in the same plane as the rest of the blade and bent at an angle in drying), subentire, light green and glabrescent above except for the appressed puberulence along the veins, about the same color beneath, minutely appressed-puberulent to almost glabrous and with prominent veins beneath, principal lateral veins 14–18 on each side of midrib, the submarginal not well formed; blades 6–10 (12) cm. long, 2–3.5 cm. wide; petioles purplish, strigulose, 2–6

mm. long; stipules dark, glabrous, subulate, 1.5–2 mm. long, promptly deciduous; inflorescence a compact, pendulous, strigulose, many-flowered panicle, 10–15 cm. long; bracts lance-ovate, 1–2 cm. long; pedicels strigulose, purplish, 8–12 mm. long; ovaries strigulose, purple, fusiform, 6–7 mm. long; hypanthium purplish-red, tubular, 3.5 cm. long, but little enlarged at base, 1.5 mm. wide, then 1 mm. wide for one-third its length and very gradually ampliate until 5 mm. wide at summit, minutely strigulose without, pubescent within basal portion; sepals scarlet, divergent, linear-lanceolate, strigulose on backs, 13–15 mm. long, 2.5–3 mm. wide at base, subulate at apex for 1.5–2 mm.; petals crimson, oblong-oblancoelate, 10–12 mm. long, 3.5–4 mm. wide, subacuminata, glabrous; stamens 11–12 and 7–8 mm. long; anthers 2 mm. long; style quite glabrous, equalling or slightly exceeding sepals; stigma slightly longer than wide, 1–1.5 mm. thick; berry ellipsoid, 8 mm. long, 4.5–5 mm. wide.

Frutex, 1 m. altus; ramulis subpurpureis, minute strigulosis, 2–4 mm. diametro; foliis ternatis vel quaternis, rigidis, subrugosis, ellipticis vel late oblongo-lanceolatis, basi rotundatis vel obtusis, apice acuminatis, subintegris, subglabris vel in venis strigulosis; laminis 6–10 (12) cm. longis, 2–3.5 cm. latis; petiolis subpurpureis, strigulosis, 2–6 mm. longis; stipulis glabris, subulatis, 1.5–2 mm. longis, caducis; inflorescentia paniculata floribus multis; bracteis lanceolato-ovatis, 1–2 cm. longis; pedicellis strigulosis, subpurpureis, 8–12 mm. longis; ovario striguloso, fusiformi, 6–7 mm. longo; hypanthio purpureo-rubro, tubuloso, 3.5 cm. longo, basi 1.5 mm. lato, inde 1 mm. lato, gradatim ampliato, apice 5 mm. lato, externe striguloso, interne pubescente; sepalis coccineis, divergentibus, lineari-lanceolatis, strigulosis, 13–15 mm. longis, 2.5–3 mm. latis, apice subulatis; petalis rubris, oblongo-oblancoelatis, 10–12 mm. longis, 3.5–4 mm. latis, subacuminatis, glabris; staminibus 11–12 vel 7–8 mm. longis; antheris 2 mm. longis; stylo glabro, sepalis aequalibus; stigmatibus 1–1.5 mm. lato; bacca ellipsoidea, 8 mm. longa, 4.5–5 mm. lata.

*Type*: Dept. Nariño: between Mayasquer and Tambo, Colombia, 2800 m., Aug. 2, 1935, *Mexia* 7571, U. S. Nat. Herb. 1662416. Another collection from ECUADOR: Prov. Carchi: between Morán and Olivos, 3200–3500 m., July 10–13, 1935, *Mexia* 7474 (US). The proposed species is near to *F. hirtella* in puberulence, divergent sepals, inflorescence, etc., but has the leaves more rigid and heavily veined with a sharper apex, the style less exerted, the fruit shorter.

(42) *Fuchsia corymbiflora* Ruiz and Pavón

(Plate 7, fig. 38)

*Fuchsia corymbiflora* RUIZ and PAVÓN, Fl. Peruv., 3:87, pl. 325, 1802.

*F. corymbosa* PRITZEL, Ind. Ic., 1:469, 1866, apparently misspelling.

*F. macropetala* PRESL, Rel. Haenk., 2:28, 1835; from Húanuco, Peru. No specimen seen, but description fits here.

*F. dependens* Hook., Ic. Pl., 1:pl. 65, 1837; based on *Jameson* 81, I am not sure of having seen it.

*F. velutina* JOHNSTON, Contr. Gray Herb., 75:36, 1925.

Semiscandent shrub up to 4 or 5 m. tall, the branches rather few, simple, the ultimate branchlets commonly 3–5 mm. thick, densely canescent-puberulent or -velutinous; leaves opposite, the blades elliptic to broadly oblong-lanceolate,

subentire to inconspicuously denticulate, densely and minutely soft-puberulent on both surfaces, rounded to obtuse at base, acuminate at apex, 6–11 cm. long, 3–5 cm. wide, the principal lateral veins 14–16 on each side of the midrib, with evident submarginal vein; petioles 6–14 (18) mm. long, velutinous; stipules lance-deltoid, about 1 mm. long, caducous; flowers terminal, few to rather many, racemose to corymbose, the bracts oblong-linear to -lanceolate, 8–15 (20) mm. long; pedicels 6–10 (12) mm. long, velutinous; ovary ellipsoid, puberulent, 5–6 mm. long; hypanthium tubular, scarlet, 3.5–6 cm. long, slightly dilated beyond ovary, then 1.5–2 mm. wide and very gradually amplify until 5–7 mm. wide at summit, puberulent without, pubescent within much of its length; sepals lance-linear, erect-divergent, scarlet, 12–15 mm. long, 3–3.5 mm. wide, acute to acuminate, puberulent on backs; petals deeper red, narrow-oblong, 13–16 mm. long, about 3 mm. wide, acute to obtusish; stamens 10–11 and 8–9 mm. long, with reddish filaments; anthers 2 mm. long; style pubescent in lower part, reddish, exceeding sepals by a few mm.; stigma subglobose, slightly lobed, 2.5–3 mm. wide; fruit round-ellipsoid, densely puberulent, 6–10 mm. long, 4–6 mm. wide.

Type locality, Chinchao, Húanuco, Peru. As here treated this species is quite different from the usual concept. I agree with Johnston (Contr. Gray Herb. 75:37. 1925) that most material which has been treated as *corymbiflora*, including illustrations, is *boliviana*, but I feel he erred in saying that the former had a glabrous inner surface to the hypanthium. In fact, I do not see what he did include in *corymbiflora*. However, the Ruiz and Pavón specimen now available at Field Museum reveals definitely what it is and shows it to be a plant of very minute soft pubescence, rather short round-ellipsoid fruits, and agreeing with material occurring from Ecuador to north central Peru and including *F. dependens* and *velutina*.

Representative material is, ECUADOR: In Andibus Ecuadoriensibus, *Spruce 5471* (NY). Prov. Carchi: Guaca San Gabriel, 3300 m., *Balls 7344* (US); Canton Tulcan, near Pun, 2987 m., *Mexia 7595* (POM, US). Prov. Pichincha: west side, Pichincha, 2700 m., *Jameson*, possible type coll. *dependens* (GH, NY, US); Canton Quito, road Cotocallao near Nono, 2987 m., *Mexia 7658* (POM, US); between Calacati and Nono, *Hartweg 986* (NY). Prov. Cotopaxi?: Hacienda Sumbagua, 3600 m., *Haught 2942a* (US). PERU: *Ruiz and Pavón*, ex Herb. Madrid, probably from Húanuco (F). Húanuco: Yanano, 2300m., *Macbride 3715*, type no. *velutina* (F, GH); road Mirador to Chanchao, 2300 m., *Mexia 7765* (GH, US); Carpis, road Acamayo to Chinchao, 2800 m., *Mexia 04129* (GH).

#### (43) *Fuchsia abrupta* Johnston

(Plate 7, fig. 39)

*Fuchsia abrupta* JOHNSTON, Contr. Gray Herb., 75:37, 1925.

More or less scandent shrub, with glabrous divaricate twigs 4–5 mm. thick; leaves opposite, subcoriaceous, lance-elliptic to broadly oblanceolate, 7–12



cm. long, 2.5–4 cm. wide, subentire, gradually narrowed at base, acuminate at apex, dark green and subglabrous above, paler and puberulent beneath especially along the veins, principal lateral veins about 20 on each side of midrib, submarginal vein evident; petioles pubescent, 4–8 mm. long; stipules lance-deltoid, 2–3 mm. long, deciduous; inflorescence a terminal pendant raceme, 1–2 dm. long; bracts reflexed, lanceolate, 8–18 mm. long, somewhat loose-pubescent; pedicels 2.5–4 cm. long, quite glabrous; ovary linear, glabrous, 6–8 mm. long, 1 mm. wide; hypanthium scarlet, tubular, 3.5–4.5 cm. long, somewhat nodose at very base, then 1 mm. thick, then gradually ampliate until 4–5 mm. wide at summit, glabrous without, pubescent within lower portion; sepals scarlet, lanceolate, 13–15 mm long, acuminate, erect-divergent, the tips subulate for 1.5–2 mm.; petals oblong, obtuse, 14–15 mm. long; stamens 10 and 8 mm. long; anthers 2 mm. long; stigma subglobose, slightly lobed, 2 mm. wide; fruit cylindric-oblong, 12–14 mm. long, 4 mm. wide.

Type collection from Cushi, dept. Húanuco, Peru, at 1600 m., *Macbride 4541* (F, GH, US). This is the only collection I have seen; it has glabrous stems, narrow leaves, long pedicels and glabrous hypanthium.

(44) **Fuchsia Cuatrecasatii** Munz, new species

(Plate 7, fig. 40)

Shrub; young twigs glabrous except sometimes toward the inflorescence, greenish, 2–4 mm. thick; leaves opposite, membranaceous, not crowded, elliptic-ovate, rounded to obtuse at base, acute to subacuminate at apex, subentire, light green and quite glabrous above, mostly glabrous beneath except for some exceedingly minute appressed puberulence along the veins, principal lateral veins 10–12 on each side of midrib, submarginal weakly developed; blades 4–16 cm. long, 2–9.5 cm. wide; petioles more or less strigulose, 2–18 mm. long; stipules deltoid, more or less connate and persistent, 1–1.5 mm. long; flowers few, in short terminal racemes; bracts lanceolate, 5–15 mm. long; pedicels slender, 7–13 mm. long, almost glabrous; ovary glabrous, ellipsoid, purplish red, 4–5 mm. long, 1.5–2.5 mm. wide; hypanthium bright red, 29–40 mm. long, 2–3 mm. wide at base, then slightly narrowed for one-third its length, then gradually ampliate until 6–8 mm. wide at summit, glabrous to sparingly pubescent without, densely pilose within; sepals scarlet, divergent, 10–13 mm. long, 4–5 mm. wide, glabrous, subulate at apex for about 1 mm.; petals scarlet, narrowly oblong-ovate, 8–10 mm. long, about half as wide, somewhat pointed, glabrous; stamens 7–8 and 5–6 mm. long; anthers 1 mm. long; style sparsely pubescent, not equalling petals; stigma barely 1 mm. thick; berry apparently oblong-ellipsoid.

Frutex; ramulis glabris, 2–4 mm. diametro; foliis oppositis, membranaceis, elliptico-ovatis, basi rotundatis vel obtusis, apice acutis vel subacuminatis, subintegris, subglabris, laminis 4–16 cm. longis, 2–9.5 cm. latis; petiolis strigulosis, 2–18 mm. longis; stipulis deltoideis, connatis, 1–1.5 mm. longis; floribus paucis, in racemis, bracteis lanceolatis, 5–15 mm. longis; pedicellis tenuibus, 7–13 mm. longis; ovario subglabro, ellipsoideo, 4–5 mm. longo, 1.5–2.5 mm. lato; hypanthio rubro, 29–40 mm. longo, basi 2–3 mm. lato, inde

angustiore, inde ampliato, apice 6–8 mm. lato, exteriore subglabro, interiore piloso; sepalis coccineis, divergentibus, 10–13 mm. longis, 4–5 mm. latis, glabris, 1 mm. subulatis; petalis coccineis, anguste oblongo-ovatis, 8–10 mm. longis; staminibus 7–8 vel 5–6 mm. longis; antheris 1 mm. longis; stylo sparse pubescente; stigmatibus 1 mm. lato; bacca oblongo-ellipsoidea.

*Type*: from **Comisaría del Cáqueta, Colombia: Cordillera Oriental, vertiente oriental Quebrada del Río Hacha, bosque abierto en Cajón de Pulido, 1700 m. alt.**, March 26, 1940, *J. Cuatrecasas 8738*, U. S. Nat. Herb. 1796401. An additional collection from the Com. de Putumayo, COLOMBIA, is from between El Silencio and La Cabaña (carretera de Sibundoy a Urcusique), at 2200–2400 m., Dec. 31, 1940, *Cuatrecasas 11495* (US). The species seems quite near *F. abrupta* of Peru, but has shorter leaves with fewer veins, shorter sepals, shorter inflorescence and pedicels.

(45) **Fuchsia Killipii** Johnston

(Plate 8, fig. 41)

*Fuchsia Killipii* JOHNSTON, Contr. Gray Herb., 81:94, 1928.

Somewhat scandent shrub, up to 4 m. tall, the younger branches brownish, subterete, somewhat puberulent; leaves opposite or ternate, elliptic, acute at base, acute to acuminate at apex, subentire, almost equally green on both surfaces, somewhat coriaceous, with about 12 principal lateral veins on each side of the midrib and evident submarginal vein, subglabrous to minutely strigulose on both surfaces, the blades 5–9 cm. long, 2–3.5 cm. wide; petioles 5–10 mm. long; stipules deltoid, scarcely 1 mm. long, deciduous; flowers in upper axils and in terminal drooping racemes or panicles, rather numerous; bracts elliptic-ovate, 1–2 (3) cm. long; pedicels subfiliform, 1–2 cm. long at anthesis, 2–4 cm. long in fruit, subglabrous; ovary round-ellipsoid, inconspicuously puberulent, 3–4 mm. long; hypanthium red, tubular, 3–4 cm. long, 1.5–2 mm. wide at the base, then narrowed for one-third its length, then rather abruptly widened until 5–7 mm. at summit, glabrous without, retrorse-villous within; sepals lanceolate, divergent, acuminate, 14–15 mm. long, 4 mm. wide, somewhat puberulent toward apex of outer surface, subulate 1–1.5 mm. at tips; petals bright red, oblong-ob lanceolate, 13–15 mm. long, 2.5–4 mm. wide, obtuse to short-acute, glabrous; stamens 12–13 and 9–10 mm. long, glabrous; anthers white, 2 mm. long; style villous through much of its length, up to 5 mm. longer than sepals; stigma 4-lobed, subglobose, 1.5 mm. long; berry globose, 5–6 mm. thick.

Type locality, Río Suratá above Suratá, Santander, Colombia. The species is distinguished from its closest relatives by having fewer veins, smaller fruit, and longer pedicels. I have seen the following collections from COLOMBIA: Santander: Río Suratá valley, above Suratá, 2000–2300 m., *Killip and Smith 16695*, type coll. (GH, NY, US), *16604* (GH, US); near Charta, 2600 m., *Killip and Smith 18854* (GH, NY, US), *17459* (GH, NY, US); near La Baja, 2200–2600 m., *Killip and Smith 16776* (F, GH, NY, US).

(46) *Fuchsia boliviana* Carr.

*Fuchsia boliviana* CARR., Rev. Hort., 1876:150, with fig., 1876.

Bushy shrub or small tree up to 4.5 (6) m. high, with rather open branching, the branchlets spreading or dependent, mostly 2-4 (5) mm. thick, terete to angled, densely pubescent; leaves opposite, sometimes alternate or ternate, elliptic to oblong-lanceolate or -ovate, obtuse to rounded at base, acute to acuminate at apex, usually somewhat denticulate, soft-pubescent on both surfaces to pilose or puberulent or glabrescent, somewhat paler beneath, with about 12-24 principal lateral veins on each side of midrib; leaf-blades 5-15 (20) cm. long, 3-6 (10) cm. wide; petioles 1.9-3 (4.5) cm. long, pubescent; stipules subulate-lanceolate, scarcely 1 mm. long, deciduous; flowers few to many, in terminal drooping pubescent corymbs or panicles which elongate in fruit; bracts 7-20 (30) mm. long, 3-9 mm. wide, usually lanceolate and reflexed; pedicels 5-15 mm. long; ovary oblong-linear, 5-7 mm. long, 1.5-2 mm. thick; hypanthium tubular, usually dark red, 3-6 cm. long, slightly enlarged at base, then 1.5-2 mm. wide and very gradually ampliate until 3.5-7 mm. at apex, more or less pubescent without and within; sepals usually dark red, lanceolate, acuminate, 10-20 mm. long, 2.5-5 mm. wide, spreading-reflexed in anthesis, more or less pubescent without; petals dark to light red, erect to divergent, oblong, 9-13 mm. long, 3-4.5 mm. wide, acute; episealous stamens equaling or slightly exceeding petals; alternate three-fourths as long; filaments glabrous, reddish; anthers light in color, 2-3 mm. long; style slender, pubescent within hypanthium, scarcely reaching tips of sepals; stigma subglobose, slightly lobed, 1-2 mm. thick; berry oblong-ellipsoid, 1-2 cm. long, 4-6 mm. thick, pubescent.

As here understood, this species is common and widespread, including most of the material once referred to *F. corymbiflora*, from which it can be distinguished by its usually longer and more spreading hairs, spreading sepals, apparently less vinelike habit, more apiculate buds and elongate fruit.

KEY TO VARIETIES OF *Fuchsia boliviana*

A. Hypanthium 3-4 cm. long; sepals 10-18 mm. long. South of Ecuador.

B. Plant pilose or pubescent with spreading hairs. Peru to Argentina. 46a. var. *typica*.

BB. Plant minutely puberulent. Bolivia. . . . . 46b. forma *puberulenta*.

AA. Hypanthium 5-6 cm. long; sepals 17-21 mm. long. North of Ecuador.

46c. var. *luxurians*.

(46a) *Fuchsia boliviana* Carr. var. **typica** Munz, new name

(Plate 8, fig. 42)

*F. boliviana* CARR., Rev. Hort., 1876:150, with pl., 1876; JOHNSTON, Contr. Gray Herb., 75:37, 1925.

*F. corymbiflora* of many authors, not of Ruiz and Pavón, 1802.

Plant usually soft-pilose or -pubescent on all new growth; hypanthium 2.5-4 cm. long; sepals mostly 12-18 mm. long.

Type locality, "sur les montagnes à la Bolivie, à 6000 mètres environ d'alti-

tude." Such an altitude is quite impossible; I have seen specimens from as high as 4000 m.; the variety ranges from Peru to northern Argentina. In the southern part of the range the plants tend to be less densely pilose and smaller-flowered. Representative material may be cited as follows, PERU: Húanuco: 5 km. SE. of Carpish, 2850 m., *Stork 9921* (F). Huancavelica: at 2400 m., *Weberbauer 6565* (F, GH). Ayacucho: Prov. de la Mar, Tambo, *Weberbauer 5555* (F, GH, US); Ccarrapa, between Huanta and Río Apurímac, 2800 m., *Killip and Smith 22280* (NY, US). Apurímac: Abancay: Ampuy, 3100 m., *Stork, Horton and Vargas 10595* (F); Huancarama, 3200 m., *West 3783* (GH). Cuzco: Urubamba Valley, *West 6462* (GH, US), *Herrera 2094* (US), *1123* (F, US); Paucartambo, *Balls 6715* (US); Ollantaytambo, *Cook and Gilbert 290* (US). BOLIVIA: La Paz: Yungas, *Bang 327* (F, GH, NY, US), *Rusby 1071* (F, GH, NY, US); Soratá, 2600–2800 m., *Mandon 622* (F, GH, NY, US). Santa Cruz: Samaipata, 1800 m., *Steinbach 3755* (POM); Comarapa, *Steinbach 8459* (GH, NY). Cochabamba: Prov. Chapare: Incacorral-Aduana, 2700 m., *Steinbach 9538* (F); Prov. Sacaba: Cerro de Incachaca, 2500 m., *Steinbach 5763* (F, GH, US). ARGENTINA: Jujuy: San Lorenzo, *Joergensen 36041* (POM). Tucumán: Depto Chichigasta, Estancia Las Pavas, *Venturi 4657* (F, US); Villa Nougés, 1200 m., *Munz 15469* (NY, POM, US); Las Lenguas al Clavillo, 1750 m., *Munz 15475* (POM); Depto. Famailá: Quebrada de Lules, *Venturi 1295* (F, CAS, GH, US).

(46b) *Fuchsia boliviana* Carr. forma *puberulenta* Munz, new form

Plant with dense minute subappressed puberulence; hypanthium 3–4 cm. long; sepals mostly 10–16 mm. long. (Planta cum puberulencia minuta et densa: hypanthio 3–4 cm. longo.)

*Type*: from **La Paz, Bolivia: Nor Yungas: Milliguaya, 1800 m., Buchtien 732**, Field Mus. no. 588700; isotypes F, GH, NY, US. Other material all from BOLIVIA: La Paz: Unduavi Valley, 2000–2600 m., *Bro. Julio 478* (US); Nor Yungas: Coroica to La Paz, *Mexia 04286* (GH); Sur Yungas: Sirupaya near Yanacachi, 2100 m., *Buchtien 732* (F, GH); Colaya, *Mexia 7809* (F, US). Cochabamba: Prov. Chapare, 110 km. north east of Cochabamba, near Chimore, 800 m., *Eyerdam 24740* (F). This form resembles *F. corymbiflora* in puberulence, though the latter has it less dense, but *F. boliviana* has spreading sepals and *corymbiflora* does not.

(46c) *Fuchsia boliviana* Carr. var. *luxurians* Johnston

*Fuchsia boliviana* CARR. var. *luxurians* JOHNSTON, Contr. Gray Herb., 75:38, 1925.

*F. cuspidata* FAWCETT and RENDLE, Journ. Bot., 64:105, 159, 1926, as to type cited: Harris 5825.

*F. corymbiflora* of many authors: LINDL., Bot. Reg., 26:pl. 70, 1840; Hook., Bot. Mag., 69:pl. 4000, 1843; not of R. and P., 1802.

Plant soft-pilose to -pubescent; hypanthium 5–6 cm. long; sepals 17–21 mm. long.



Type locality, Colonia Tovar, Venezuela. Representative material, JAMAICA: Cinchona, *Harris 7643* (NY), *Harris and Lawrence C15438* (NY); St. Helen's Gap, St. Andrew, *Marón and Killip 571*, 1475 m. (F, GH, NY, US). GUATEMALA: Cartago: Cartago, 1350 m., *Smith 4804* (US); Zacatepéquez: San Rafael, 2000 m., *Smith 2176* (US). San Marcos: Tájumulco, northwest slope of Volcán Tájumulco, 2300 m., *Steyermark 36510* (F). Chimaltenango: San Marcos, *Johnson 1231* (F). EL SALVADOR: bought in market of San Salvador, brought from Volcán de San Salvador, *Calderón 2345* (F, US). COLOMBIA: Antioquia: "Las Minitas," so of Caldas, 2650 m., *Pennell 10970* (GH, NY); Medellín, *Toro 721* (NY). Caldas: Salento to "Lagunita," old Quindío trail, 2000 m., *Pennell 10594* (GH). Cundimarca: Bogotá, 2700 m., *Schultze 135* (US), *Perez 4802* (US). VENEZUELA: Colonia Tovar, 1800–2000 m., *Pittier 9252*, type no. (GH, NY, US), *Allart 354* (NY, US), *Jahn 439* (US).

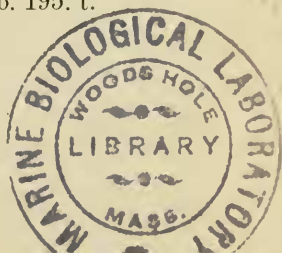
(47) *Fuchsia fulgens* DeCandolle

(Plate 8, fig. 43)

*Fuchsia fulgens* DC., Prodr., 3:39, 1828; in Sessé and Mocino, Icon. Fl. Mex. ined., 362; LINDLEY, Bot. Reg., 24:1, 1838; CURTIS, Bot. Mag., 67:3801, 1840; HEMSLEY, Biol. Centr. Amer., Bot., 1:457, 1880; STANDLEY, Contr. U. S. Nat. Herb., 23:1078, 1924. *Ellobium fulgens* LILJA, Linnaea, 15:262, 1841.

Shrub, commonly 3–12 dm. tall, with tuberous-thickened roots, soft woody stems, few-branched; young branches sparsely pubescent, these and the leaves tinged red; leaves broadly ovate to oblong-ovate, opposite, paler beneath than above, fine-pubescent on both surfaces, rounded to more or less cordate at base, abruptly short-acuminate, shallowly and evenly serrulate, the blades thin, 5–17 cm. long, 3–12 cm. wide, with about 10 principal lateral veins on each side of the midrib; petioles 1.5–10 cm. long; flowers several, in short racemes with an axis 5–20 cm. long; lower bracts leafy and ovate, 1–3 cm. long; upper reduced, lanceolate, 0.5 cm. long, puberulent; pedicels pendant, very slender, 1–2 (3.5) cm. long; hypanthium 5–6.5 cm. long, about 2 mm. wide at base, then scarcely narrowed and then gradually ampliate until 5–7 mm. wide near mouth, dull scarlet, subglabrous to puberulent without, pubescent within; sepals 4, yellowish to greenish with somewhat pale or yellow or red base, ovate-lanceolate, 12–14 mm. long, subglabrous except for the sparse pubescence near the acuminate tips; petals bright red, oblong-ovate, obtuse, 8 mm. long, 6 mm. wide; stamens about 10 and 7 mm. long; anthers 2–3 mm. long, filaments whitish to reddish; style filiform, pink, pubescent near base, slightly exceeding sepals; stigma greenish, subconic, 2 mm. long; fruit ellipsoid, subglabrous, dark, 2 or more cm. long.

Type locality not known; the species is Mexican, is near to such long-tubed species as *F. boliviana*, *corymbiflora*, etc., but quite distinct in its green sepals and leaves of *cordifolia* type. It may be an epiphyte, may grow on ledges, walls, or more open ground. Material seen, "Fuchsia cordifolia N. No. 195. t.



2. f. 159 i. c. 195," *Sessé, Mociño et al 5211* (F); photo of Geneva copy of Sessé and Mociño plate (F); H. B. Basil, Aug. 1841 (NY). MEXICO: Mexico City, *Russell and Souviron 132* (US). Mexico: Temascaltepec District, Rincon, *Hinton 1144* (GH, US). Michoacán: near Tarascon, *Pringle 11988 $\frac{1}{2}$ , at 2000 m., (F, GH, US); near Patzcuaro, *Pringle 4123* (F, GH, MICH, NY, POM, US); Morelia, Campanario, 2200 m., *Arsène in 1911* (US); Monte San Miguel, *Arsène 6673* (US); 2 miles north of Zitacaura, *Hitchcock and Stanford 7207* (US); Tancitaro, *Leavenworth 303* (F). Jalisco: Volceno Colima, 2100 m., *Goldsmith 22* (GH).*

(48) ***Fuchsia decussata*** Ruiz and Pavón

(Plate 8, fig. 44)

*Fuchsia decussata* RUIZ and PAVÓN, Fl. Peruv., 3:88, pl. 323, fig. b., 1802.

*F. scandens* KRAUSE, Fedde Rep., Nov. sp. 1:171, 1905; based on Weberbauer 3324 from Monzon, Húanuco, Peru; have seen photograph.

*F. fusca* KRAUSE, Engl., Jahrb., 37:599, 1906; based on Weberbauer 4975 from near Cuzco; have seen photograph; flowers large like Macbride 4414.

*F. fontinalis* MACBR., Candollea, 8:25, 1940. Reduced by Macbride, Field Mus. Nat. Hist., Bot., 13, part 4:552, 1941.

Shrub, supported by other vegetation, up to 3 m. high, with long flexuous branches, the youngest reddish, 1–3 mm. thick, densely brown-pubescent with incurved hairs; leaves ternate or opposite, numerous, those of main stems often remote and supplemented by smaller ones on reduced lateral branchlets, coriaceous, elliptic to elliptic-lanceolate or -ovate, cuneate at base, acute at apex, serrate to serrulate, dark green and puberulent to strigulose to glabrescent above, paler and short-pilose beneath, especially along veins, principal lateral veins 6–10 on each side of midrib, submarginal vein somewhat developed, blades 1.5–5 cm. long, 0.5–1.5 (2) cm. wide; petioles pubescent-pilose, 3–8 (15) mm. long; stipules dark, subulate, 1–1.5 mm. long, persisting; flowers solitary in axils; pedicels subfiliform, pilose, 1.5–3 cm. long; ovary ellipsoid, 3–4 mm. long, more or less pilose; hypanthium 13–16 (22) mm. long, red, 2–3 mm. wide at base, then very little narrowed, 3.5–4.5 mm. wide at summit, sparsely pilose without, glabrous within; sepals divaricate, lance-oblong, red with green tips, acute, 7–9 (11) mm. long, 2.5 mm. wide, sparsely pilose on backs; petals red, oblong-ovate, obtusish to apiculate, 6–7 (10) mm. long, 3–4 mm. wide; stamens 8–9 and 6–7 mm. long, more or less exerted; anthers 1.5–2 mm. long; style glabrous, equaling or exceeding sepals by 2–3 (6) mm.; stigma 1.5 mm. wide; fruit red, oblong, obtusely angled, 8–10 mm. long, 5–6 mm. thick.

Type locality, Muña, dept. Húanuco, Peru. The species ranges at elevations of 2800–3400 m. from Húanuco to Cuzco. It has considerable variation in width and acuteness of petals. It falls in a group with axillary flowers and short hypanthium and seems to be a possible derivative from the *cordifolia* type. Macbride (Field Mus. Nat. Hist. Bot. Ser. 13, part 4, no. 1:554, 1941)

maintains *F. fusca* as a species on the basis of the wider petals and brownish pubescence, but this latter character seems to be a general tendency in many specimens. Representative material of *F. decussata* are: PERU: without definite locality given, *Ruiz and Pavón*, *F. decussata* sp. nov. Herb. at Geneva (photo F, POM), ex Herb. Madrid (F). Húanuco: 15 miles SE of Húanuco, 2900 m., *Macbride and Fcatherstone 2124* (F, GH, US), *2081* (F, GH, US), *2107* (F, GH, US); Pano, *Macbride 3615* (F, GH, US); Tambo de Vaca, *Macbride 4414* (F, GH) with petals 10 mm. long; Carpish, *Stork and Horton 9911* (F) with very narrow petals; Carpis, between Acomayo and Chinchos, *Mexia 04126* (GH), *04128* (GH); Monzon, *Weberbauer 3324*, type *scandens* at Berlin (photo F, POM). Ayuencho: prov. Huanta, between Tambo and Apurimac River, *Weberbauer 5578* (F). Cuzco: between Cuzco and Santa Anna, below Yanamanche, *Weberbauer 4975*, type *fusca* at Berlin (photo F, POM).

(49) ***Fuchsia hypoleuca*** Johnston

(Plate 8, fig. 45)

*Fuchsia hypoleuca* JOHNSTON, Contr. Gray Herb., 75:34, 1925.

Shrub, 1–2 m. high; young stems densely canescent-pubescent with more or less incurved hairs, slender, 1.5–3 (4) mm. thick; leaves opposite or ternate, rigid, crowded, lanceolate, obtuse to acute at base, acute at apex, remotely serrulate in upper half, more or less revolute, veiny almost rugose, greenish and somewhat strigulose above, pale and densely pilose-pubescent beneath, tending to have interwoven fungus mycelium underneath, principal lateral veins 6–10 on each side of midrib, submarginal vein present; blades 3–6 (7.5) cm. long, 0.8–1.7 cm. wide; petioles pubescent, 5–10 mm. long; stipules subulate, 2–3 mm. long, deciduous; pedicels few, solitary in axils, filiform, pendulous, pubescent, 1.5–2 cm. long; ovary ellipsoid, pubescent, 4 mm. long; hypanthium red, 18–23 mm. long, about 2.5 mm. wide at base, then somewhat narrowed and then gradually ampliate until 5 mm. wide, pubescent and villous within lower half; sepals divaricate, scarlet, lanceolate, 9–12 mm. long, 3 mm. wide, pubescent on backs, subulate for 1 mm. at apex; petals scarlet, obovate, 7 mm. long, 4–5 mm. wide, rounded at apex; stamens 7–8 and 5–6 mm. long; anthers 1.5 mm. long; style pubescent within the hypanthium, equalling the sepals or exceeding them by 2–3 mm.; stigma green, 1.5 mm. wide; fruit apparently oblong-ellipsoid, 4-angled, 8–10 mm. long, 3–4 mm. wide.

Type locality, between Loja and San Lucas, prov. Loja, Ecuador. The species seems to me in its floral position and hypanthium shape to be near *F. decussata*, but amply distinct in the narrow crowded leaves which are whitish beneath. I have seen the following specimens, ECUADOR: without definite locality, *Jameson* (F, US), southern provinces, *Jameson* (US); between Loja and San Lucas, 2100–2600 m. *Hitchcock 21440*, type coll. (GH, NY, US).

(50) *Fuchsia scabriuscula* Bentham

(Plate 8, fig. 46)

*Fuchsia scabriuscula* BENTH., Pl. Hartweg., 177, 1845.

Spreading shrub, 7–20 dm. tall, the younger twigs sometimes reddish, 2–4 mm. thick, densely pilose with white to somewhat brownish hairs; leaves opposite, elliptic to elliptic-obovate, rigid and very veiny, even rugose, rounded to obtuse at the base, acute to subacuminate at the apex, subentire, somewhat strigose above, paler and pilose beneath, especially on veins, with 10–15 principal veins on each side of midrib and with prominent submarginal vein; blades 3–10 (13) cm. long, 1.5–5 (7) cm. wide; petioles 5–25 mm. long, densely pilose; stipules subulate, pubescent, 1.5–3 mm. long, quite persistent; pedicels solitary, axillary, slender, curved, pilose, 1–2 cm. long; ovary narrowly fusiform, densely pilose, 5–7 mm. long; hypanthium bright red, 15–18 mm. long, 1.5–2 mm. wide at base, then somewhat narrowed, then gradually ampliate until 4.5–5 mm. wide at summit, densely pilose without and within the basal half; sepals bright red, divergent, lance-oblong, 8–9 mm. long, ca. 3 mm. wide, subulate at apex for about 1.5 mm., pilose on back; petals red, obovate-oblong, 8–9 mm. long, about 0.5 mm. wide, rounded at apex; stamens about 8 and 6 mm. long; anthers 1.5 mm. long; style densely pubescent within hypanthium, extending about to tips of petals; stigma greenish, about 2 mm. wide; fruit oblong, 10–12 mm. long, 3–4 mm. wide.

Type locality, "In declivities occidentali Andium Quitensium." Ecuador. This species with *F. verrucosa* seems to me to be near *F. decussata*, but with a somewhat more narrow base to the hypanthium. It is characterized by the very veiny, rugulose leaves, pilose stems and flowers, and short hypanthium. It seems to be confined to Ecuador, from which I have seen the following material: in Andibus Ecuadorensibus, *Spruce 5038* (GH, NY). Pichincha: in declivitate occidentali Andium Quitensium, *Hartweg 987*, type no., Geneva Herb. (photo F, POM; leaf F); Sive Andium Quitensium, 2500 m., *Jameson 53* (NY), *92* (GH); between Baeza and Papallacta, 2000 m., *Mexia 7339* (GH, US); Nanegal District, *Couthouy in 1855* (GH); west declivity of Pichincha, *Jameson 7* (NY). Tungurahua: Valley of Pastaza River, between Baños and Cashurco, 1300–1800 m., *Hitchcock 21781* (GH, NY, US); Vulcán Tunguragua, *Lehmann 4995* (F). A collection from Huigra, by *Rose and Rose*, no. 22477 (US) is near this but the leaves are thin.

(51) *Fuchsia verrucosa* Hartweg

(Plate 8, fig. 47)

*Fuchsia verrucosa* HARTWEG, in Benth., Pl. Hartweg., 178, 1845.*F. perbrevis* JOHNSTON, Contr. Gray Herb., 75:30, 1925.

Shrub 1–2 m. high, young twigs subglabrous, slightly red, 2–4 mm. thick; leaves opposite or ternate, thick and firm, elliptic-ovate to ovate-oblong, acute to acuminate at base, acuminate at apex, subentire to somewhat serrulate, quite glabrous above, paler and subglabrous beneath, or puberulent on the



veins; veins very prominent beneath, the principal lateral ones about 15 on each side of the midrib, submarginal prominent; blades 4–12 cm. long, 2.5–5.5 cm. wide; petioles 2–10 mm. long; stipules more or less connate, reflexed, about 2 mm. long; flowers few, solitary, axillary; pedicels firm, glabrous, 1–2.5 cm. long, recurved at anthesis; ovary subglabrous, 10–12 mm. long, about 2 mm. wide, 4-angled; hypanthium obovate, 3–5 mm. long, subglabrous without and within; sepals 8–10 mm. long, 2–3 mm. wide, lance-oblong, divergent, acutish, bright red; petals red, obovate, 8–9 mm. long, 4–5 mm. wide; stamens 3–4 mm. long; anthers 1.5 mm. long; style glabrous, 7–9 mm. long; stigma 1.5 mm. thick; fruit 4-angled, 15–18 mm. long, 3.5–4 mm. wide.

Type locality, between "Páramo de San Fortunato et pagum Fusagasuga, prov. Bogotá," Colombia. The species seems to be nearest to *F. scabriuscula*, with which it agrees in its thick veiny leaves, but is remarkable, as has been pointed out both by Bentham and Johnston in their descriptions, for its very short hypanthium. I have seen the following collections, all from COLOMBIA: without definite locality, *Mutis* 2077 (US), 2047 (US), 1361 (US). Dept. Santander del Norte: road Pamplona to Toledo, 2800–3000 m., *Killip and Smith* 19976 (GH, NY, US), 19831 (F, GH, NY, US). Cundimarea: between Páramo de San Fortunato and Fusagasuga, prov. Bogotá, *Hartweg* 991, type no. *verrucosa*, Berlin specimen (photo F, POM), Geneva specimen (leaf F); Flora Neo-granadina-Bogotana, Ultra Abate (ultra Ubate ?), *Holton* 892, type *perbrevis* (GH). Huila: Comisaría del Caquetá: Cordillera Oriental, en Gabinete, 2300–2450 m., *Cuatrecasas* 8465 (US).

(52) *Fuchsia sanctae-rosae* O. Kuntze

(Plate 9, fig. 48)

*Fuchsia sanctae-rosae* O. KUNTZE, Rev. Gen., III, pt. 2:98, 1898.

*F. boliviana* BRITTON, Bull. Torrey Bot. Club, 17:214, 1890, not Carr., 1876.

*F. Brittonii* JOHNSTON, Contr. Gray Herb., 75:39, 1925, new name for *boliviana* Britton.

*F. Weberbeueri* KRAUSE, Fedde Rep. Nov. Sp., 1:170, 1905; based on Weberbauer 661, of which I have seen a photograph.

*F. flipes* RUSBY, Mem. N. Y. Bot. Gard., 7:317, 1927; based on White 232, which I have seen.

From suffrutescent or almost herbaceous and 3–5 dm. tall, to shrubby and 2–3 m. high, rather simple to many-branched, erect to semidecumbent; young shoots mostly glabrous, sometimes somewhat pilose, purplish red, 1.5–4 mm. thick; leaves mostly in whorls of 3 or 4, firm, elliptic-lanceolate to almost obovate, obtuse to acute at base, acute to acuminate at apex, subtire to minutely serrulate, deep green and glabrous above, lighter and glabrous beneath except usually somewhat pilose along midrib, principal lateral veins 8–12 on each side of midrib, submarginal frequently not very evident; blades 3–10 cm. long, 1.5–4 cm. wide; petioles 5–20 mm. long, usually purplish red and glabrous, sometimes appressed-pubescent; stipules subulate, 1–2 mm. long, sometimes reflexed, sometimes connate, deciduous; flowers rather numerous, but solitary in upper axils of somewhat reduced leaves, hence more or

less racemose; pedicels very slender, 1–2.5 cm. long, mostly glabrous; ovary narrow ellipsoid, glabrous to puberulent, 4–6 mm. long; hypanthium deep to bright red, 13–18 (22) mm. long, 2–2.5 mm. wide at base, then slightly narrowed and then gradually ampliate until about 4 mm. wide at summit, glabrous without, pilose within the lower half; sepals scarlet, lance-oblong, 8–10 mm. long, 2.5–3 mm. wide, glabrous or sometimes pilose, acutish; petals orange-red to scarlet, oblong-obovate, 6–8 mm. long, 3–6 mm. wide, obtuse to acutish, sometimes almost 3-toothed; stamens 7–9 and 5–7 mm. long; anthers about 1.5 mm. long; style mostly glabrous, extending about to the sepal-tips; stigma red, about 1 mm. wide; berry varying from globose-ellipsoid to oblong-ellipsoid, 6–10 mm. long, 4–5 mm. wide.

Type locality, Santa Rosa, Bolivia (there are several towns of this name in Bolivia). I have not seen the type. The species is variable in every way, but I cannot find any constant characters for division. It comes between the racemose and axillary-flowered groups with short hypanthium, so seems to stand between the species I have just treated and those like *Osgoodii*, *Andrei*, etc., which follow. It ranges at altitudes between 2000 and 3000 m., in southern Peru and Bolivia. Representative material, PERU: Dept. Cuzco: "Pillahuata," Cerro de Cusilluyoc, *Pennell 13997* (F, GH, NY, US), *13956* in part (GH); prov. Paucartambo, valley of Río Tambomayo, *West 7091* (GH); Macchu-Picchu, *Munz 15548* (POM), *West 6414* (GH), *Mexia 8078* (F, GH, US), *Balls 6802* (US). Puno: Sandía, *Weberbauer 661*, type *Weberbaueri* at Berlin (photo F, POM). BOLIVIA: Santa Rosa, as *serratifolia*, *O. Kuntze in 1892* (F, GH). La Paz: Hazienda Simaeo, sobre el camina a Tipuani, *Buch-tien 832* (F, POM), *5508* (GH, NY, US); Pongo, Pulcheri, *White 232*, type no. *filipes* (GH, US); Prov. Larecaja: near Ananea: Machacamarea, *Mandon 624* (F, GH, NY); Prov. No. Yungas, between Unduavi and Chirca, *Eyerdam 25388* (F); Yungas, *Bang 675* (F, GH, NY, US), *Rusby 1812* (F, NY, US), *1813* type no. *boliviana*, *Brittoni* (NY, US). Cochabamba: prov. Chapare, *Steinbach 9227* (GH); Incachaca, *Cárdenas 665* (US).

(53) **Fuchsia Osgoodii** Macbride

(Plate 9, fig. 49)

*Fuchsia Osgoodii* MACBRIDE, Field Mus. Nat. Hist., Botany, 13, part 4, no. 1:559, 1941.  
*F. ovalis* R. and P. var. *aberrans* MACBRIDE, l.c., 560.

Shrub, up to 4 m. tall; twigs dark, subglabrous, 1–2.5 mm. thick; leaves opposite, firm, elliptic-lanceolate, acute to acuminate at both ends, quite entire, deep green, glabrous above, paler and glabrous beneath except minutely puberulent or short-pilose on veins, with 10–12 principal lateral veins on each side of midrib, submarginal present; leaf-blades 5–8 (12) cm. long, 1.5–3 (6) cm. wide; petioles glabrous, 8–10 mm. long; flowers few, in short congested racemes; bracts 1–2 cm. long; pedicels filiform, 1.5–2.5 cm. long, glabrous; ovary linear-ellipsoid, ca. 5 mm. long; hypanthium 23–24 mm. long, dark red, somewhat enlarged at base, where 1.5–2 mm. wide, then 1 mm. wide

for one-third its length, then gradually amplify until 4–5 mm. wide at summit, glabrous without, villous within lower portion; sepals red, oblong-ovate, 10–11 mm. long, 5–6 mm wide, glabrous, subulate for 1–1.5 mm. at apex; petals red, oblong, about 10 mm. long, 4 mm. wide, abruptly acute; stamens 8 and 6 mm. long; anthers 1.6 mm. long; style glabrous, equalling petals; stigma 4-lobed, 1.5 mm. wide; berry oblong, at least 12 mm. long and 4 mm. wide.

Type locality, PERU: Dept. Libertad: Uchco, the type *Osgood and Anderson 47* (F). From Cajamarca: prov. Cutervo: Arenales, *Stork and Horton 10155* (F) comes the type of *ovalis* var. *aberrans*, which has some lower and larger leaves than the type of *Osgoodii*. They are more pilose on the veins beneath the leaves, but the upper smaller leaves have the same puberulence as in *Osgoodii*. *F. Osgoodii* is near *F. sanctae-rosae* in hypanthium, foliage, etc., but has more definitely terminal inflorescence.

(54) **Fuchsia Andrei** Johnston

(Plate 9, fig. 50)

*Fuchsia Andrei* JOHNSTON, Contr. Gray Herb., 75:31, 1925.

Shrubby, the younger twigs more or less purplish red, fairly coarse, subglabrous except toward the minutely pubescent tips, 3–8 mm. thick; leaves opposite or ternate, oblong-elliptic to elliptic-obovate, mostly obtuse at base, abruptly acuminate at apex, membranaceous, subentire, sparsely ciliolate, green and subglabrous above, paler beneath and puberulent on veins, with about 12 principal lateral veins on each side of midrib and with evident submarginal vein; blades 7–15 cm. long, 3–7 (9) cm. wide; petioles subglabrous, 1–2.5 cm. long; stipules deltoid, ca. 1 mm. long, deciduous; inflorescence a short lateral or terminal raceme; bracts lanceolate, 3–10 mm. long, somewhat pubescent; pedicels slender, somewhat pubescent, 10–15 mm. long; ovary oblong, subglabrous, about 5 mm. long; hypanthium 2–3 cm. long, somewhat enlarged at base, then 1 mm. wide for about one-third its length, then gradually amplify until 4–4.5 mm. wide at apex, subglabrous without, pilose within lower half; sepals oblong-lanceolate, 7–9 mm. long, divergent, subulate for 1.5 mm. at tips, almost glabrous; petals lance-oblong, 9–10 mm. long, 2.5–3 mm. wide, obtuse; stamens about 8 and 6 mm. long; style pilose in basal half, exceeding sepals by 3–4 mm.; stigma globose, 4-lobed, ca. 1 mm. thick; berry oblong, 6 mm. long and 3 mm. wide.

Type locality, Río de Huannamaca, probably southern Ecuador. I have seen two collections: Río de Huannamaca, *André K 820*, type no. (F); Tambo de Savanilla, *André K 818* (F, GH, NY). The leaves are large and glabrous, the flowers in terminal racemes.

(55) **Fuchsia Lehmannii** Munz, new species

(Plate 9, fig. 51)

Soft-wooded shrub up to 2 m. high, the younger twigs dark red, mostly glabrous, 1–3 mm. thick; leaves opposite or ternate, elliptic-lanceolate or

-oblanceolate, acuminate or acute at both ends, rigid, subentire, glabrous, and dark green above, beneath paler and glabrous except for some short appressed pubescence on the reddish veins, the principal lateral veins 8–12 on each side of midrib; leaf-blades mostly 5–10 (12) cm. long, 1.5–3 (4) cm. wide; petioles glabrous to somewhat strigulose, 5–15 mm. long; stipules lance-subulate, 1 mm. or so long, deciduous; flowers numerous, crowded in short lateral and terminal racemes arranged paniculately; bracts lance-linear, reflexed, somewhat pubescent, 1–2 cm. long; pedicels slender, pubescent, 8–18 mm. long; ovary narrow-fusiform, more or less strigulose, 3–5 mm. long; hypanthium red, 24–30 mm. long, 1 mm. wide at base, then narrowed for one-third its length, then gradually ampliate until 3.5–5 mm. wide at apex, mostly glabrous without and pubescent within the narrow basal portion; sepals scarlet, reflexed-spreading, linear-lanceolate, glabrous, 9–10 mm. long, 2.5–3 mm. wide, subulate for 1–2 mm. at apex; petals scarlet, oblong-lanceolate, about 1 cm. long, 2–2.5 mm. wide, obtusish; stamens 7 and 5.5 mm. long; anthers 1 mm. long; style glabrous, slightly exceeding petals; stigma 1–1.5 mm. wide; fruit ellipsoid, 5–6 mm. long, 3–4 mm. wide.

Frutex, 1–2 m. altus; ramulis rubris, subglabris, 1–3 mm. crassis; foliis oppositis vel ternatis, elliptico-lanceolatis vel -oblanceolatis, acuminatis vel acutis, rigidis, subintegris, in superficie superiore glabris, inferiore glabris vel in venis puberulentis, laminis 5–10 (12) cm. longis, 1.5–3 (4) cm. latis; petiolis glabris vel substrigulosis, 5–15 mm. longis; floribus numerosis, in racemis paniculatis; bracteis lanceo-linearibus, reflexis, pubescentibus, 1–2 cm. longis; pedicelis tenuibus, pubescentibus, 8–18 mm. longis; ovario angusto-fusiforme, striguloso, 3–5 mm. longo; hypanthio rubro, 24–30 mm. longo, base 1 mm. lato, inde angustiore, inde ampliato et apice 3.5–5 mm. lato, externe subglabro, interne pubescente; sepalis coccineis, reflexo-divergentibus, lineare-lanceolatis, glabris, 9–10 mm. longis, cum apicibus subulatis 1.5–2 mm. longis; petalis coccineis, oblongo-lanceolatis, 1 cm. longis, 2–2.5 mm. latis, obtusis; staminibus 7 et 5.5 mm. longis; antheris 1 mm. longis; stylo glabro, petala excedentibus; stigmatibus 1–1.5 mm. lato; bacca ellipsoidea, 5–6 mm. longa, 3–4 mm. lata.

*Type*: from **Loja, Ecuador: east Andes of Sigsig, 1600–1800 m., Lehmann 5498** (equal Pearce's 235), type Field Museum 550994; isotypes GH, US. A second collection also from Loja: Río Savanilla, east Andes of Loja, 800–1300 m., *Lehmann 7858* (F, US). The proposed species is near *F. Osgoodii* in leaves and flowers, but sepals are more narrow and berry shorter; near *F. Hartwegii* in flower-shape, but glabrous and with more pointed leaves; near *F. Andrei*, but with glabrous style and narrow leaves.

(56) ***Fuchsia putumayensis* Munz, new species**

(Plate 8, fig. 52)

Shrub or tree, younger twigs quite glabrous, with some purplish red about the nodes, 2–4 mm. thick; leaves opposite, lance-ovate, rather membranaceous, acute to obtuse at base, acute to acuminate at apex, subentire, bright green and glabrous above, lighter and glabrous beneath except for fine appressed puberulence along midrib and veins, the principal lateral veins about 15, rather prominent beneath, the submarginal inconspicuous; blades 6–10 cm.



long, 2.5–4 cm. wide; petioles 5–12 mm. long, purplish red, somewhat strigulose; stipules not seen; flowers several, in very short compact terminal and lateral almost glabrous racemes; bracts reflexed, linear-lanceolate, 3–10 mm. long; pedicels filiform, quite glabrous, 1–2.5 cm. long; ovary linear-fusiform, glabrous, 3.5–4 mm. long, red; hypanthium bright red, 14–20 mm. long, ca. 1 mm. wide at base, then somewhat narrowed for one-third its length, then gradually ampliate until 2.5–3.5 mm. wide at summit, glabrous without, pilose within lower portion; sepals scarlet, divergent, 7–9 mm. long, 3 mm. wide at base, subulate at apex for 1–1.5 mm., glabrous; petals scarlet, oblong, 6 mm. long, about 3 mm. wide, rounded-obtuse at apex; stamens 5 and 3.5 mm. long; style glabrous, barely equalling petals; stigma ca. 1 mm. thick; fruit oblong-ellipsoid, about 2.5 cm. long.

Frutex vel arbor; ramulis glabris, subrubris, 2–4 mm. diametro; foliis oppositis, lanceolato-ovatis, membranaceis, basi acutis vel obtusis, apice acutis vel acuminatis, subintegris, in superficie superiore glabris, inferiore in venis strigulosis; laminis 6–10 cm. longis, 2.5–4 cm. latis; petiolis 5–12 mm. longis, substrigulosis; racemis brevibus, compactis, terminalibus et lateralibus, subglabris; bracteis reflexis, lineari-lanceolatis, 3–10 mm. longis; pedicellis glabris, 1–2.5 cm. longis, ovario lineare-fusifforme, glabro, 3.5–4 mm. longo, rubro; hypanthio rubro, 14–20 mm. longo, basi 1 mm. lato, inde angustiore, inde ampliato et apice 2.5–3.5 mm. lato, externe glabro, interne piloso; sepalis coccineis, divergentibus, 7–9 mm. longis, basi 1 mm. latis, glabris; petalis coccineis, oblongis, 6 mm. longis, 3 mm. latis, apice rotundatis vel subobtusis; staminibus 5 et 3.5 mm. latis; style glabro, petala non excedentibus; stigmatibus 1 mm. diametro; bacca oblongo-ellipsoidea, circa 25 mm. longa.

*Type: Commissaría del Putumayo: Cocoa, Colombia, May 23, 1935, H. García B. 4639, U. S. Nat. Herb. 1593482. This is rather a fragmentary specimen and had almost finished flowering, so that the last late flowers may be somewhat small for the species. A second specimen, Plañada de Minchoy, Cuatrecasas 11436 (US). It seems near *F. Lehmannii* in having lateral and terminal compact racemes, being glabrous, having subulate sepal-tips and glabrous style. But it has more veins, too long a berry, too long pedicels and too short a hypanthium.*

(57) *Fuchsia Hartwegii* Benth

(Plate 9, fig. 53)

*Fuchsia Hartwegii* BENTHAM, Pl. Hartw., 179, 1945.

Shrub or small tree, the younger branches slender, more or less purplish-red, pubescent, sometimes also with some longer hairs; leaves in 3's or 4's, elliptic-oblong, rounded to obtuse at base, obtuse to abruptly acuminate at apex, subentire or inconspicuously and remotely denticulate, membranaceous, darker green and appressed-pilose above, paler and pilose beneath especially on veins, principal lateral veins 14–16 on each side of midrib, submarginal vein present; leaf-blades mostly 4–10 cm. long, 2–4 (5.5) cm. wide; petioles appressed-pilose, slender, 5–35 mm. long; stipules subulate-deltoid, 1.5 mm. long, deciduous; flowers numerous in terminal pyramidal leafy-bracted, pendulous panicle 5–15 cm. long; bracts broadly elliptic, 8–25 mm. long;

pedicels slender, pilose, 5–10 mm. long; ovary ovoid, appressed-pubescent, about 3 mm. long; hypanthium red, tubular, sparsely pubescent without, pilose within lower half, 1.4–2 cm. long, 1.5 mm. wide at base, then somewhat narrowed, then gradually widened until 4–5 mm. wide at apex; sepals orange-red or scarlet, linear-lanceolate, spreading-divaricate, 8–9 mm. long, barely 2 mm. wide, acuminate, with subulate tips less than 1 mm. long, pubescent on backs; petals red, linear-lanceolate, 8–9 mm. long, 2 mm. wide, acute, glabrous; stamens 10 and 8 mm. long; anthers 1.5–2 mm. long; style slender, glabrous or somewhat pubescent in lower part, equalling or exceeding sepals by 3–4 mm; stigma globose, about 1 mm. broad; fruit round-ellipsoid, up to 7 mm. long.

Type locality, Colombia: "In sylvis prope Pitayo et Huambia." A species of southern Colombia, where it grows at between 2000 and 3000 m., it seems near *F. Lehmannii*, *F. ovalis*, etc., in its general features: terminal inflorescence, short hypanthium, etc., but has its own characteristic pubescence, leaf-size, pedicel-length, and the like. Representative material is as follows, COLOMBIA: Caldas: *Dawe 741* (NY, US). Huila: "Balsillas" in Río Balsillas, *Rusby and Pennell 789* (NY, US). El Cauca: near Pitayo and Huambia, *Hartweg 994*, type no. (fragment F), (photo Berlin specimen F, POM); central Andes of Popayán, *Lehmann 5613* (F); Coconuco, *Killip 6829* (GH, NY, US); near Puracé, *Lehmann 3503* (F, US); San Isidro, Puracé, *Pennell and Killip 6460* (GH); Canaan, Mt. Puracé, *Pennell and Killip 6502* (GH); del páramo a Puracé, matorrales en Chiquín, *Pérez Arbeláez and Cuatrecasas 5973* (US).

(58) ***Fuchsia ovalis*** Ruiz and Pavón

(Plate 10, fig. 54)

*Fuchsia ovalis* RUIZ and PAVÓN, Fl. Peruv., 3:87, pl. 324, fig. a, 1802.

*F. polyanthella* JOHNSTON, Contr. Gray Herb., 75:36, 1925; I have seen type material of both this and *ovalis*.

Erect or somewhat scandent, semishrubby, up to 1 m. tall, rather sparsely branched, the younger branches 3–6 mm. thick, more or less dark, pilose to almost glabrous; leaves opposite or ternate, membranaceous, broadly elliptic to oblong-ovate or obovate, obtuse to acute at base, abruptly acuminate at apex, entire to inconspicuously denticulate, darker green and hirsute-strigose above, paler and hirsute beneath especially on veins, with about 15–17 principal lateral veins on each side of midrib and with submarginal vein; blades mostly 8–15 cm. long, 5–8 cm. wide; petioles pilose, 2–5 cm. long; stipules subulate-deltoid, 2–5 mm. long, quite persistent; flowers in mostly axillary racemes up to 1 dm. long; bracts lanceolate, 1–1.5 cm. long, pilose; pedicels 1–1.5 cm. long, glabrous to pilose; ovary ellipsoid, 5–7 mm. long, glabrous to sparingly pilose; hypanthium 13–15 mm. long, scarlet, 1.5–2 mm. wide at base, then narrower until gradually widened to summit where 3.5–4.5 mm. wide, glabrous to sparingly pilose without, villous within lower half; sepals lanceolate, acute, somewhat divergent, 9–11 mm. long, acute, not subulate,

glabrous to somewhat pilose; petals obovate-oblong, obtusish, 7–8 mm. long; stamens 5 and 4 mm. long, filaments violet; anthers 1 mm. long; style glabrous, extending to sepal-tips; stigma subglobose, about 1 mm. broad; berry oblong, red-purple, somewhat 4-angled, about 1 cm. long, 4 mm. wide.

Type locality, Muña, Huánuco, Peru. The species is characterized by its large leaves which are pilose on both surfaces, by its lateral racemes, lanceolate bracts, and hypanthium 15 mm. long. I have seen the following collections, PERU: the *Ruiz and Pavón* collection from Madrid Herb. (F), from Geneva Herb. (photo F, POM). Huánuco: Huallaga und Muña, 2800–2900 m., *Weberbauer 6721* (F); Muña, trail to Tambo de Vaca, 2600 m., *Macbride 4290*, type number polyanthella (F, GH).

(59) ***Fuchsia asperifolia*** Krause

*Fuchsia asperifolia* KRAUSE, Fedde Rep. Nov. Sp., 1:169, 1905.

Low shrub, up to 5 dm. tall, simple or few-branched, the young twigs dark, densely pilose; leaves opposite or ternate, membranaceous, broadly elliptic to elliptic-obovate, acute at both ends, subentire, hirsute on both surfaces, especially on veins beneath, with about 15 principal lateral veins on each side of midrib, submarginal vein present; blades 4–10 cm. long, 2–5 cm. wide; petioles hirsute, 2–5 cm. long; stipules subulate, deciduous; flowers in dense usually terminal hirsute raceme; bracts apparently lanceolate; pedicels apparently scarcely 5 mm. long; ovary about 6 mm. long, pilose; hypanthium dark red, 2–2.5 cm. long, slightly bulbous at base, then narrowed and gradually widened until 5–6 mm. wide at apex, hirsute without, pilose within; sepals ovate, acuminate, 7–8 mm. long; petals scarlet, narrowly obovate, acutish at apex, 8–9 mm. long; stamens included; style equaling sepals; stigma subglobose, 4-lobed; fruit not seen.

Type locality, Peru: Amazonas: between Tambos Bagazán and Almirante, east of Chachapoyas, at 2700 m.; type *Weberbauer 4445* at Berlin (photo F, POM). Having seen only a photograph, I do not have many details; the species seems near to *F. ovalis*, but with more terminal inflorescence, is more hirsute throughout and with shorter pedicels.

(60) ***Fuchsia pilosa*** Fielding and Gardner

*Fuchsia pilosa* FIELD. and GARDNER, Sert. Pl., 1, pl. 27, 1844; MACBRIDE, Field Mus. Nat. Hist., Bot. 13, pt. 4, no. 1:561, 1941.

Shrub, thinly white-pilose on young branches, leaves, petioles, hypanthia, etc.; leaves ternate, oblong-lanceolate, acute at base, acuminate at apex, minutely denticulate, the blades 6–9 cm. long, 1.8–2 cm. wide, one of each whorl somewhat larger than the other two; two of petioles at each node 5–7 mm. long, the third at least 2 cm. long; flowers in terminal racemes which become 1 or more dm. long; bracts like reduced leaves and 1–2.5 cm. long; pedicels a few mm. long; flowers scarlet, crowded; hypanthium apparently about 22 mm. long; sepals oblong, 8–9 mm. long, prominently subulate at apex; petals

obtuse, wider than sepals, almost equaling them; style included; fruit oblong, 4-angled, less than 1 cm. long.

Type locality, Taulia, Amazonas, Peru: type *Mathews 1482*, which I have not seen. Macbride separates this species on the basis of its unequal petioles and leaves, one at each node being larger than the other two. It would seem from the description to be near to *F. asperifolia* and the two are perhaps distinct from each other because of the unequal leaves.

(61) ***Fuchsia glaberrima*** Johnston

(Plate 10, fig. 55)

*Fuchsia glaberrima* JOHNSTON, Contr. Gray Herb., 75:32, 1925.

Shrub; younger twigs slightly reddish, 3–5 mm. thick, not branched, glabrous except for very minute scarce appressed puberulence near tips; leaves opposite, firm, elliptic-oblongate, tinged reddish purple, obtuse at base, acuminate to acute at apex, entire, quite glabrous, with 13–15 principal lateral veins on each side of the midrib and with inconspicuous marginal vein; blades 10–20 cm. long, 4–8 cm. wide; petioles up to 5 (8) mm. long; stipules connate, often reflexed, quite persistent, 2–2.5 mm. long; inflorescence a short terminal raceme; bracts lanceolate, 1–3.5 cm. long; pedicels stout, 5–7 mm. long, minutely appressed puberulent; ovary fusiform, 6–9 mm. long; hypanthium bright red, 2.5–3 cm. long, about 2 mm. wide at base, then very little contracted, then widened until 6–7 mm. wide at apex, almost glabrous without, densely pubescent throughout within; sepals scarlet, oblong, 9–11 mm. long, 4–5 mm. wide, obtusish; petals scarlet, broadly obovate, 9 mm. long, rounded at apex; stamens 5 and 3.5 mm. long; anthers 1.5 mm. long; style densely pubescent much of its length, almost equaling sepals; stigma 4-lobed, 2.5 mm. thick; fruit not seen.

Type, ECUADOR: Prov. Tungurahua: Valley of Pastaza River, between Baños and Cashureco, 1300–1800 m.; type number *Hitchcock 21750* (GH, NY, US). Diels, Bibl. Bot. 116:119, 1937, refers here a Raimondi collection from Amazonas, Peru. This species is like *F. spectabilis* in its broad petals, but has a shorter hypanthium; like *F. asperifolia* in general appearance, but more glabrous and with more sessile leaves.

(62) ***Fuchsia macrophylla*** Johnston

(Plate 10, fig. 56)

*Fuchsia macrophylla* JOHNSTON, Contr. Gray Herb., 75:35, 1925.

Shrub up to 3 m. tall, openly branched, the younger twigs 3–6 mm. thick, with some dark red or purplish tinge, subglabrous to finely strigulose-puberulent toward the tips; leaves opposite, thick-membranaceous, elliptic, gradually attenuate and subacuminate at base, somewhat abruptly acuminate at apex, subentire, dark green above, paler beneath, subglabrous on both surfaces except for some minute puberulence along the veins, principal lateral veins



14-18 on each side of midrib, submarginal well developed; blades 7-15 (18) cm. long, 3-5 (6.5) cm. wide; petioles 1-4 cm. long; stipules dark, lance-subulate, 1.5-2 mm. long, deciduous; inflorescence mostly of short axillary sometimes terminal racemes, often only a few cm. long and with few flowers; bracts lanceolate or wider, 5-15 mm. long; pedicels slender, minutely strigulose, 5-20 mm. long; ovary ellipsoid, 4-5 mm. long; hypanthium scarlet, 18-23 mm. long, 1.5-2 mm. wide at base, then narrowed, then gradually ampliate until 4-5 mm. wide at apex, finely appressed-puberulent without, pilose within; sepals divergent, oblong-lanceolate, red with green tips, 7-8 mm. long, 3 mm. wide, appressed-puberulent on backs, apices subulate for 0.5 mm.; petals bright red, oblong-obovate, 8-9 mm. long, somewhat mucronate at apex; stamens 6-8 and 3-5 mm. long; anthers 1.5 mm. long; style pubescent near base, scarcely extending to sepal tips; stigma 4-lobed, 1.5 mm. thick; fruit dark red, subglobose to somewhat elongate, 8-10 mm. long.

Type locality, Hacienda Schunke, La Merced, Dept. Junín, Peru. This species is near *F. Andrei* in leaf-size, puberulence, etc., but has more narrow and attenuate-based leaves, longer fruit, and more southern range. I have seen, from PERU: Húanuco: Distrito Churubamba, trail Puente to Exito, Pampa Hermosa, 1750 m., *Mexia 8142* (F, GH, NY, US). Junín: La Merced, *Macbride 5616*, type no. (F, GH, US); Pichis Trail, 1600 m., *Killip and Smith 25436* (F, GH, NY); Eneñas, *Killip and Smith 25784* (GH, NY, US). Ayacucho: Ccarrapa, between Huanta and Río Apurímac, 1500 m., *Killip and Smith 22353* (F, GH, NY), *22336* (NY, US). Cuzco: Prov. Paucartambo: Río Tambomayo, bet. Tambomayo and Consuelo, 1100-1400 m., *West 7113* (GH).

(63) ***Fuchsia sessilifolia*** Bentham

(Plate 11, fig. 57)

*Fuchsia sessilifolia* BENTHAM, Pl. Hartweg., 176, 1845.

Slender, erect shrubs to small trees, the ultimate branchlets purplish red, 2-5 mm. thick, glabrous except for the minutely strigulose-puberulent younger parts; leaves rather remote, in whorls of 3 or 4, elliptic-lanceolate to narrowly elliptic-ovate or -obovate, rounded to obtuse at base, acuminate at apex, remotely serrulate, rather coriaceous, glossy green and quite glabrous above, as well as minutely puberulent on the impressed veins, glabrous and paler beneath, or puberulent on the veins, principal lateral veins 15-20 on each side of midrib, submarginal vein evident; blades 8-15 cm. long, 2.5-4 (5) cm. wide; petioles 2-4 mm. long, strigulose-puberulent; stipules subulate-deltoid, about 1 mm. long; inflorescence terminal, drooping, racemose-paniculate, 1-2 dm. long, canescent-strigose, conspicuously bracted; bracts mostly 1.5-2.5 cm. long, ovate-elliptic; pedicels strigulose, slender, 3-5 mm. long; ovary oblong, strigulose, 4-6 mm. long; hypanthium scarlet, 13-16 mm. long, 1.5 mm. wide at base, then very little narrowed, then gradually ampliate until 4-5 mm. wide at summit, finely strigulose-puberulent without, pilose within

most of its length; sepals lanceolate, acuminate, divergent, greenish red, strigulose on backs, 8–10 mm. long, subulate for almost 1 mm. at tips; petals scarlet, oblong, 9–10 mm. long, 3 mm. wide, acutish, glabrous; stamens ca. 7 and 5 mm. long; anthers 1 mm. long; style glabrous, extending almost to ends of sepals; stigma about 1 mm. thick; berry oblong, 10–12 mm. long, 5–6 mm. thick, somewhat 4-angled.

Type locality, "in sylvis Guayan in declivitate occidentali montis Pichincha," Ecuador. The species seems to me to be near *F. Hartwegii* in inflorescence, hypanthium, etc., but differs in the long, sessile, narrow, rather glabrous, firm leaves, short pedicels, conspicuous inflorescence. It grows in southern Colombia and northern Ecuador at altitudes of from 2000–3600 meters. Representative material is, COLOMBIA. Antioquia: Dauro, Choco, near Medellín, *Toro 1168* (NY). Caldas: Buenavista-Quindio, *André in 1876* (F, GH, NY). Tolima: Prov. de Mariquita; El Gallego, *Triana 3813* (US), *Holton in 1853* (NY). Huila: Cordillera Central, east of Neiva, *Rusby and Pennell 687* (NY, US); Cordillera Oriental, vertiente occidental, entre Gabinete y Andalucía, *Cuatrecasas 8586* (US). Cauca: Valle de Quintero, near Pitaio, *Pittier 1427* (NY, US); Canaan, near Mt. Puracé, *Pennell and Killip 6674* (GH, NY, US); Paletara to Calagualá, *Pennell 7111* (GH, NY, US). Nariño: woods near Pasto, *Jameson 432* (US). Putumayo: above El Encavo, Laguna La Cocha, *Balls 7521* (US). ECUADOR: Carehi: Canton Tulcan near Pun, *Mexia 7597* (POM, US). Pichincha: sive Andium Quitensium, *Jameson* under Couthouy (GH).

#### (64) *Fuchsia sylvatica* Benth

(Plate 11, fig. 58)

*Fuchsia sylvatica* BENTHAM, Pl. Hartweg., 176, 1845.

*F. nigricans* LINDEN, Fl. de Serres, Sér. 1, 5:pl. 481, 1849; see discussion below.

*F. atrorubra* JOHNSTON, Contr. Gray Herb., 75:31, 1925; I cannot maintain, although sepals and petals are somewhat short.

Low shrub, more or less scandent, openly branched, the ultimate twigs purplish, minutely canescent strigulose, 2–4 mm. thick; leaves opposite to ternate, elliptic to elliptic-ovate or -obovate, obtuse to acute at both ends or subacuminate at apex (subentire or inconspicuously denticulate, membranaceous, deep green and strigulose above, paler and more densely strigulose beneath, veins reddish, the principal lateral ones 11–15 on each side of midrib, submarginal present; leaf-blades 3–10 cm. long, 1.5–5 (6) cm. wide; petioles strigulose, 6–20 mm. long; stipules subulate-deltoid, 1–1.5 mm. long, somewhat persistent; flowers on terminal or lateral pendant strigulose racemes; bracts ovate to oblong to suborbicular, 1–2.5 cm. long; pedicels slender, strigulose-canescens, 5–9 mm. long; ovary narrowly ellipsoid, 4–6 mm. long; hypanthium 14–19 mm. long, ca. 1.5 mm. thick at base, gradually ampliate until 2.5–3 mm. wide at summit, more or less canescent-strigulose without, densely pilose within; sepals pink or pale red, divergent, linear-lanceolate, 6–9 mm.

long, acute, not subulate at apex, strigulose on backs; petals crimson to purple red, oblong, 7–9 mm. long, acute; stamens 4–6 and 3–5 mm. long; anthers 1–1.5 mm. long; style glabrous, scarcely reaching sepal-tips; stigma 4-lobed, 2 mm. wide; berry oblong, 12–14 mm. long, 4.5–6 mm. thick.

Type locality, "In sylvis Guayan in declivitate occidentali montis Pichincha," Ecuador. It is near *F. sessilifolia* in puberulence and short pedicels, but has broader leaves and more pubescent twigs. I have not seen the type of *F. nigricans* from Mérida, Venezuela, but the three Jahn specimens seem to agree with the description. Though these come from much farther north than the general range of *F. sylvatica*, I cannot separate them unless I see the labels. Perhaps these Venezuela specimens have slightly looser pubescence and fruit about 2 mm. longer. Representative material of *sylvatica*, VENEZUELA: Mérida: Páramo de Aricagua, 2500 m., *Jahn 1028* (US); between Boconó and Campo Elias, 2000 m., *Jahn 14* (US); selva arriba de Palmira, 2600 m., *Jahn 509* (US). COLOMBIA: Antioquia: Santa Elena, *Archer 1195* (US); Medellín, *Toro 972* (NY). Caldas: Río Santa Rita, Salento, *Killip and Hazen 8966* (GH, NY, US); Salento, *Pennell and Hazen 10144* (GH, NY, US); Quindío, *Dawe 769* (NY, US); Santa Elena, above Santuario, *Pennell 10313*, type no. *atrorubra* (GH, NY). Cundimarca: Fomeque, *Dawe 352* (US). Tolima: La Mediación, Quindío, *Triana 3511* (US); Río Toche to Machin, old Quindío Trail, *Killip and Hazen 9564* (GH). ECUADOR: Pichincha: w. slope Mt. Pichincha, *Jameson 190* (GH), *Hartweg 984*, Geneva specimen (US); between Cosanga and Baeza, 2000 m., *Mexia 7337* (US); Río Mapoto, (photo F, POM). Tungurahua: Canton Quito: Alaspongo, *Mexia 7703* (POM, *Penland and Summers 282* (F, POM)).

### SECTION 3. KIERSCHLEGERIA (Spach) Munz, new comb.

*Kierschlegeria*, as genus, SPACH, *Nouv. Ann. Sci. nat.*, (2), 4:176, 1835; as subsect., ENDLICHER, *Gen. Pl.*, 1193, 1840.

Pedicels axillary, pendulous; seeds angled. Leaves sparse or subverticillate; thickened petiole-base persistent and becoming spine-like. Sepals reflexed, little shorter than hypanthium.

One species, *Fuchsia lycioides* Andr.

#### (65) *Fuchsia lycioides* Andrews

(Plate 11, fig. 59)

*Fuchsia lycioides* ANDR., *Bot. Rep.*, II, pl. 120, 1800; *Bot. Mag.*, 25:1024, 1807.

*F. rosea* RUIZ and PAVÓN, *Fl. Peruv.*, 3:88, 1802.

*F. spinosa* PRESL, *Rel. Haenk.*, 2:26, pl. 51, 1835.

*F. rosea* var. *spinosa* REICHE, *Anal. Univ. Chile*, 98:486, 1897; *Fl. de Chile*, 2:268, 1898.

Shrub up to 3 m. tall, the older branches stout, grayish, knobby with dwarf lateral branches, intricately branched and with some of the twigs dull-spinose at their ends, younger twigs more slender (2–3 mm. thick), fairly straight, reddish, subglabrous with short sparse pubescence especially toward tips,

beset after the leaves are shed by the persistent thickened woody bases of the petioles which form heavy dull spines 1.5–2 mm. long; leaves alternate, numerous, the blades lance-ovate to ovate, 6–24 mm. long, 3–15 mm. wide, subentire, acute to obtuse at both ends, glabrous except sometimes at tips and margins, somewhat paler beneath; petioles slender above the thickened base, glabrous to pubescent, 5–15 mm. long; stipules apparently fused with petiole base; flowers axillary, solitary; pedicels filiform, 5–8 mm. long, glabrous to puberulent; ovary rounded, 1.5–2 mm. long; hypanthium glabrous without and within, red, subcylindric, 4–7 mm. long, 2–2.5 mm. wide; sepals 4, red, lanceolate, acuminate, spreading-reflexed, glabrous or somewhat pubescent, 4–7 mm. long; petals purplish, obcordate, 3–4 mm. long; episepalous stamens about as long as petals, epipetalous somewhat shorter; style glabrous, reddish, about as long as sepals; stigma somewhat 4-lobed, about 1 mm. wide; berry blue-black, subspheric, 4–6 mm. thick.

Type locality given as "North-west coast of America," but undoubtedly Valparaiso, Chile, near which most specimens of the species have been collected. It apparently grows on dry slopes near the sea, mostly in the provinces of Coquimbo and Aconcagua. Representative material, CHILE: Fray Jorge, *Skottsberg 798* (NY), *Muñoz P. no. B-217* (GH), *Werdermann 1526* (B), *Berninger 621* (B); Punta de Teatinos, *West 3921* (GH); Coquimbo, *Gaudichaud 77* (B, G). Santiago: Santiago, *Germain in 1856–57* (G); Concon, *Poeppig 123* (B). Aconcagua: Valparaiso, *Macrae in 1825* (G), *Bertero 1006* (G, GH), *Gaudichaud 248* (F, G), *Rusby 1800* (F, NY, US); Laguna Verde, near Valparaiso, *Looser 2290* (POM), *Garaventa 1641* (GH); Choapa, near Los Vilos, *Mr. and Mrs. J. N. Rose 19280* (NY, US); Papudo, *Looser 2291* (POM).

#### SECTION 4. SKINNERA (Forst.) DeCandolle

*Skinnera* (FORST.) DC., *Prodr.*, 3:39, 1828; ENDLICHER, *Gen. Pl.*, 1183, 1840; BENTH. and HOOK., *Gen. Pl.*, 1, pt. 2:791, 1862; RAIMANN in Engl. and Prantl, *Die nat. Pflanzenfam.*, III, 7:219, 1893.  
as genus, FORST., *Char. Gen.*, 57, pl. 29, 1776.

Hypanthium infundibuliform, swollen above ovary. Sepals reflexed. Petals small and scale-like or wanting. Filaments long, exserted. Fruit many-seeded; seeds very small, much crowded, in 2 or more rows. Stigma subcapitate, somewhat 4-lobed. Pedicels axillary, pendulous. Leaves alternate.

Type species, *Fuchsia excorticata* (Forst.) L.f.

#### KEY TO SPECIES OF SECTION SKINNERA

- A. Petals 2–4 mm. long; plant very woody, varying from a liane to an erect shrub or tree; leaf-blades whitish beneath, 1–9 cm. long
  - B. Trees; leaf-blades 2–9 cm. long, with about 10 principal veins on each side of midrib.
    - C. Leaves oblong-ovate to lance-ovate, acute to acuminate at apex, somewhat pilose beneath on midrib. New Zealand.....66. *F. excorticata*.



- CC. Leaves elliptic to elliptic-obovate, rounded to obtuse at apex, glabrous beneath.  
 Tahiti. . . . . 67. *F. cyrtandroides*.
- BB. Not trees; leaf-blades 1-4 cm. long, with 3-9 main veins.  
 C. Erect shrub; leaves oblong-ovate, blades mostly 2-4 cm. long. . . 68. *F. Colensoi*.  
 CC. Liane; leaves suborbicular, blades mostly 1-2 cm. long. . . . 69. *F. perscandens*.
- AA. Petals lacking; plant small, procumbent, with very slender stems; leaf-blades less white beneath, 0.5-1.8 cm. long.  
 B. Sepals acuminate; style about as long as stamens; hypanthium tubular-campanulate, 7-8 mm. long. . . . . 70. *F. procumbens*.  
 BB. Sepals obtuse; style not exerted from hypanthium; hypanthium campanulate, 6-7 mm. long. . . . . 71. *F. Kirkii*.

(66) ***Fuchsia excorticata*** (Forster) L.f.

(Plate 11, fig. 60)

*Skinnera excorticata* FORST., Char. Gen., 58, pl. 29, 1776.*Fuchsia excorticata* (FORST.) L. f., Suppl., 217, 1781; LINDLEY, Bot. Reg., 10:857, 1824.

Wide-spreading tree 10 m. tall, with papery exfoliating light brown bark; young twigs subglabrous to puberulent, subterete, more or less reddish in color; leaves alternate, oblong-ovate to lance-ovate, rounded to subcordate at base, acute to acuminate at apex, usually somewhat gland-denticulate, green and almost glabrous above, whitish and generally glabrous beneath except for some pilosity along veins and margins; blades 3-9 cm. long, 1.5-3 cm. wide, with about 10 principal veins on each side of midrib and with submarginal vein; petioles puberulent, 1-1.5 (4) cm. long; stipules ovate, acuminate, puberulent, less than 1 mm. long, deciduous; flowers solitary, axillary, pendant, at first green, then purplish red; pedicels capillary, puberulent, 5-15 mm. long; ovary subglabrous, 5-6 mm. long, about 1 mm. thick; hypanthium 4-angled, 8-15 mm. long, subglabrous without and within, 2-5 mm. wide at very base for 1-2 mm., then 1.5-2 mm. wide and gradually ampliate until 4-10 mm. wide at summit; sepals spreading to reflexed, ovate-lanceolate, glabrous, acuminate, 8-14 mm. long; petals dark purple, erect, 2-4 mm. long, elliptic, lanceolate, acutish; stamens erect, the episealous 6-9 mm. long, the others somewhat shorter; anthers blue, 1-2 mm. long; style glabrous, about equalling sepals; stigma subentire, 2 mm. long, yellowish; berry ellipsoid, about 1 cm. long, dark.

Type locality not given; species ranging through New Zealand. Representative material, NEW ZEALAND: North Island: Auckland: Waikowhai, *Miss Mackie in 1932* (NY); Auckland, *Petrie 4110, in 1898* (NY), *Meebold 9925* (NY). Wellington: Feilding, *Allan in 1924* (NY), *in 1928* (CAS); Wainui-o-Mata, *Meebold 4619* (BISH); Khandallah, *Self in 1941* (POM, WELT). South Island: without definite locality, *Kirk* (F). Otago: Dunedin town-belt, Colby, *DN, from Herb. D. Petrie* (GH); cliff west of St. Clair, *Prue Collier, per M. Neal, 168* (BISH); Nelson, *Kirk 253* (GH), *Marie Neal 3* (BISH); Canterbury: Kaiturea Valley, Bank's Peninsula, *Cockayne 4111* (NY); So. Canterbury, edge of forest on Hunter Hills, *Anderson 207* (F, NY).

(67) *Fuchsia cyrtandroides* Moore

(Plate 11, fig. 61)

*Fuchsia cyrtandroides* MOORE, B. P., Bishop Museum, Occasional Papers, 16:13, 1940.

Tree up to 5 m. tall, the young twigs quite glabrous; leaves mostly alternate, broadly elliptic to elliptic-obovate, green above, white beneath, glabrous, rounded to obtuse at base and apex, subentire to obscurely denticulate, with about 10 principal veins on each side of midrib and with indefinite submarginal vein; petioles 8–14 mm. long; blades 2–9 cm. long, 2–5.5 cm. wide; stipules apparently ovate, deciduous; flowers solitary, axillary, rose-magenta; pedicels 1.5–2.5 cm. long; ovary fusiform-clavate, 6–7 mm. long, 2 mm. thick; hypanthium about 1 cm. long, tubular-campanulate, glabrous, 2–2.5 mm. wide at base and gradually ampliate to 5–6 mm. at summit; sepals spreading, lanceolate, subacuminate, 10–14 mm. long, 4–5 mm. wide; petals erect, oblong-ovate, 4 mm. long?; stamens about as long as sepals, the epipetalous slightly shorter; style slightly exceeding stamens, glabrous; stigma 1.5 mm. long, somewhat 4-lobed; berry black, ellipsoid, about 1 cm. long.

SOCIETY ISLANDS: Tahiti: Orofena, south side, rain forest, 1500 m., May 14, 1927, *MacDaniels 1315*, type coll. (BH, BISH), at 1600 m., *St. John and Fosberg 17005* (BISH). The species is very near *F. excorticata* in its arborescent habit, large leaves which are white beneath, and in the size and shape of the flowers. It differs from that New Zealand species, however, in having the leaves proportionately wider, more obtuse and less pubescent.

(68) *Fuchsia Colensoi* Hook. f.

(Plate 12, fig. 62)

*Fuchsia Colensoi* HOOK. F., Handb. New Zealand Fl., 728, 1867; Trans. and Proc. New Zealand Inst., 1892:25, pl. 19, fig. 4, 5, 1893.

Small branching erect shrub, with ultimate twigs very slender, puberulent; leaves oblong-ovate, rounded to subcordate at base, obtuse to subacuminate at apex, subentire, green and glabrous above except for fine strigulosity on impressed veins, white and glabrous beneath except for some pilosity on main veins, short-ciliate, principal lateral veins 6–9 on each side of midrib; petioles very slender, 5–10 (20) mm. long; blades 1–4 cm. long, 0.5–2 cm. wide; pedicels filiform, 5–10 mm. long; ovary ellipsoid, about 5 mm. long, 2–2.5 mm. wide; hypanthium 8–10 mm. long, 2–2.5 mm. wide at base, then 1–1.5 mm. wide and rapidly ampliate until 5–7 mm., red, quite glabrous; sepals greenish to reddish, spreading-reflexed, lanceolate, 7–15 mm. long; petals purple, 2–3 mm. long; stamens almost equaling sepals or about two-thirds as long, epipetalous; style exerted by 2–5 mm.; stigma 1.5–2 mm. wide; berry oblong, at least 8 mm. long.

Type locality, North Island, New Zealand. Material seen, NEW ZEALAND: North Island: Papaitonga, in Kahikatea forest, *Oliver in 1941* (POM, WELT); Wammometa, Wellington, collector not given (WELT, photo

POM); Levin, Wellington, *Oliver in 1941* (POM, WELT). South Island: Kaikoura, *Kirk* (GH); Pelorus, *Kirk*, (F); Otago: Port Chalmers, *Petrie 4109* (NY). This species is very near to *F. excorticata* and not surely distinct. With inadequate material I am following what seems to be a tendency among New Zealand botanists, namely to recognize these several *Fuchsia* segregates as species.

(69) ***Fuchsia perscandens*** Cockayne and Allan

(Plate 12, fig. 63)

*Fuchsia perscandens* COCKAYNE and ALLAN, Trans. Proc. N. Z. Inst., 57:53, 1927.

Climbing shrub, the main stems few-branched, the twigs appressed-puberulent, slender; leaves orbicular-ovate, subcordate at base, acute at apex, subentire to sinuate-denticulate, subglabrous above except for possible minute puberulence along the impressed midrib, whiter and subglabrous beneath, short-ciliate, with about 3-6 main veins on each side of midrib; blades 1-2.5 cm. long, almost as wide; petioles almost filiform, 1-2 cm. long; pedicels filiform, about 1 cm. long; flower much as in *F. Colensoi*, the hypanthium about 9 mm. long, inflated at base, etc.; sepals about 7 mm. long; petals 2.5 mm. long; berry dark purple, subcylindric, about 1 cm. long, 5 mm. thick.

Type locality, "forests near Feilding," North Island, New Zealand. Material seen, NEW ZEALAND: North Island: Palmerston North, *Zobro 3471* (CAS); Feilding, forest margin, *H. H. Allan, Aug. 1924* (NY); Sinclair Head, Wellington Harb., *Healy 1* and *2* (POM, WELT). A second sheet from Feilding also at New York is an intergrade with *F. excorticata*, with longer and more oblong leaves which are pilose beneath on the veins; it may be a hybrid.

(70) ***Fuchsia procumbens*** R. Cunningham

(Plate 12, fig. 64)

*Fuchsia procumbens* R. CUNN., Ann. Nat. Hist., 3:31, 1839.

*F. prostrata* BAILL., Bull. Soc. Linn., Par. 1:270, 1880; apparently a name for the above.

Procumbent, woody, with very slender glabrous stems; leaves alternate, not crowded; petioles very slender, channeled and pubescent above, 1.5-3 cm. long; stipules minute, ovate, deciduous; blades suborbicular to round-ovate, subcordate at base, serrulate, subglabrous except on pubescent margin and veins of lower surface, somewhat paler beneath than above, 1-1.8 cm. long, sometimes somewhat wider, with about 5 principal veins on each side of midrib; flowers solitary, axillary; pedicels slender, subglabrous, scarcely 1 cm. long; ovary 3-4 mm. long, fusiform-clavate; hypanthium apparently dark red, tubular-campanulate, 7-8 mm. long, constricted above ovary, then abruptly dilated to about 3 mm. wide, then more gradually until 5 mm. wide at summit, glabrous without and within; sepals reflexed, green, lance-deltoid, acuminate, 6 mm. long, 2.5 mm. wide; petals lacking; stamens slightly unequal, erect, ca. 4 and 5 mm. long; anthers 1 mm. or slightly longer; style glabrous, about as long as stamens, purplish; stigma 1.5-2 mm. thick; fruit not seen.

Type locality, North Island, New Zealand, "around the village of Matauri on the east coast opposite the Cavallos Isles." Material seen, NEW ZEALAND: North Island, garden specimen, Khandallah, *Sutherland in 1941* (POM). South Island: Canterbury: Christchurch, Laing's Garden, *Meebold 25160* (BISH); Timaru, park gardens, *Anderson 35* (NY).

(71) **Fuchsia Kirkii** Hooker f.

*Fuchsia Kirkii* Hook. f. ex T. Kirk, Trans. New Zealand Inst., 1:92, 1868; Icon. Pl., 11:66, pl. 1083, 1871.

With prostrate habit and slender stems of *F. procumbens*; petioles 1–1.5 cm. long, blades 5–10 mm. long, orbicular-cordate; pedicels ca. 5 mm. long; ovary ca. 3 mm. long; hypanthium campanulate, 6–7 mm. long, 5–6 mm. wide at summit; sepals reflexed, oblong, obtuse, 5 mm. long, 2.5 mm. wide; petals 0; stamens 3–4 mm. long; style included in hypanthium; stigma less than 0.5 mm. wide.

Type locality, Great Barrier Island, New Zealand. Specimens seen, NEW ZEALAND: North Island: Tryphena Bay, *T. Kirk* (F, GH); Port Tryphena, *Kirk 528* (GH). Apparently distinct from *F. procumbens* in having a shorter wider hypanthium, sepals more oblong and obtuse; style shorter and stigma smaller.

SECTION 5. HEMSLEYELLA Munz, new section

Nectary and hypanthium-base fused; petals lacking or nearly so. Hypanthium funnellform to cylindro-funnelform, enlarged at base. Sepals more or less connate at base. Leaves tending to be deciduous at anthesis.

Nectarium basem hypanthii adnatum; petalis fere nullis; hypanthio infundibuliforme vel cylindro-infundibuliforme, base ampliato; sepalis base fere connatis.

Type species, *Fuchsia apetala* Ruiz and Pavón. This section is dedicated to W. B. Hemsley who published a paper on the apetalous Fuchsias of South America in the Journ. of Bot. 14:69–70, 1876.

KEY TO SPECIES OF SECTION HEMSLEYELLA

- A. Hypanthium less than 2 cm. long; leaves with 13–16 principal lateral veins on each side of midrib. . . . . 83. *F. cestroides*.
- AA. Hypanthium more than 2.5 cm. long; leaves with 5–10 principal lateral veins on each side of midrib.
  - B. Hypanthium at least 4–5 times as long as the sepals (including the connate base of the latter).
    - C. Leaves well developed at anthesis; petioles mostly 3–7 cm. long; pedicels 3–5 cm. long; hypanthium 10–14 cm. long. . . . . 81. *F. Garleppiana*.
    - CC. Leaves mostly deciduous at anthesis; petioles mostly 1–3 cm. long; pedicels 0.5–2.5 cm. long; hypanthium 6–12 cm. long. . . . . 82. *F. macrantha*.
  - BB. Hypanthium usually 1.5–3 times as long as sepals (including connate base).
    - C. Hypanthium glabrous without.
      - D. Leaves alternate, lance-ovate, the blades mostly 2.5–4 times as long as wide; hypanthium 8–12 mm. wide; sepals greenish. . . . . 73. *F. tuberosa*.



- DD. Leaves mostly subopposite, elliptic- or oblong-ovate, the blades not more than twice as long as wide; hypanthium 5–8 mm. wide; sepals red.
- E. Petals 2 mm. long; sepals 8–12 mm. long. Mexico. . . . . 72. *F. decidua*.
- EE. Petals none; sepals 18–22 mm. long. South America.
- F. Leaves largely deciduous at anthesis; stamens exceeding sepals; style 1–1.5 cm. longer than sepals. Peru to Bolivia.
74. *F. juntasensis*.
- FF. Leaves well developed during anthesis; stamens shorter than sepals; style scarcely extending beyond sepals. Venezuela.
75. *F. membranacea*.
- CC. Hypanthium not glabrous under a lens.
- D. Leaves lance-ovate; twigs glabrous; hypanthium sparsely and finely glandular-pubescent. . . . . 76. *F. salicifolia*.
- DD. Leaves elliptic- to oblong-ovate; twigs not glabrous.
- E. Leaves subopposite; pubescence very fine, short, velvety; hypanthium 5–8 mm. wide. Largely Bolivian. . . . . 77. *F. tunariensis*.
- EE. Leaves alternate; pubescence longer; hypanthium 7–11 mm. wide.
- F. Stamens longer than sepals; pedicels 1.5–2.5 cm. long; inflorescence short-pubescent. Venezuela to northern Peru.
78. *F. apetalá*.
- FF. Stamens shorter than sepals; pedicels 1–1.5 cm. long; inflorescence shaggy-pilose. Central Peru to Bolivia.
- G. Leaves deciduous at anthesis; hairs white, 0.5–1 mm. long.
79. *F. hirsuta*.
- GG. Leaves present at anthesis; hairs brown, 1–1.5 mm. long.
80. *F. unduavensis*.

(72) *Fuchsia decidua* Standley

(Plate 12, fig. 65)

*Fuchsia decidua* STANDLEY, Pub. Field Mus. Nat. Hist., Bot. 4:248, 1929.

Shrub with long subterete or somewhat 4-angled branches, the younger ones 3–9 mm. thick, brownish, glabrous, with internodes 1–3 cm. long; leaves opposite, unknown, deciduous at time of flowering; inflorescence short racemose lateral panicles 2–6 cm. long, with glabrous, somewhat glaucous very slender branches; pedicels slender, recurved, 3–8 mm. long; hypanthium 2–3.5 cm. long, almost 2 mm. wide at base, then narrowed into an elongate tube which gradually flares upward until 5–6 mm. wide at mouth, somewhat glaucous, light vermilion, glabrous without and within; sepals vermilion, oblong, obtuse, 8–12 mm. long, 4 mm. wide; petals suborbicular, 2 mm. long; stamens about 9 and 6 mm. long; filaments thickish; anthers 1.5–1.8 mm. long; style glabrous, about equal to sepals; stigma barely 1 mm. long; berry not seen, but probably longer than thick.

Type locality, MEXICO: Jalisco: Real Alto, La Bufa, Sierra Madre Occidental, at 2500 m.; *Mexia 1601* being the type no. (F, GH, CAS, MICH, NY, US). A second collection of apparently the same thing comes from the state of Guerrero; Sierra Madre near Chilpanengo (Chilpancingo?), *Nelson 2195a* (US); none of the flowers is fully matured, hence shorter than in the type collection. Not knowing the leaves, I find it difficult to determine a close rela-

tionship for this species in the section *Eufuchsia*, but it seems to be near to the apetalous species of *Hemsleyella* in its greatly reduced petals. Some of these species have also lateral reduced inflorescences.

(73) **Fuchsia tuberosa** Krause

*Fuchsia tuberosa* KRAUSE, Fedde Rep., 1:170, 1905.

Shrub up to 1 m. tall, epiphytic or terrestrial; roots bearing clusters of roundish tubers; stems few-branched, reddish, glabrous, the branchlets 2–5 mm. thick; leaves may shed at time of flowering, alternate, lance-ovate to lanceolate or ovate, subglabrous, round or acute, sometimes cordate at base, curved-acuminate at apex, entire to denticulate, paler beneath than above, with 6–8 principal lateral veins on each side of midrib; blades 5–10 cm. long, 2–3.5 cm. wide; petioles slender, 1–2 (3) cm. long; stipules deltoid, about 0.4 mm. long, deciduous; flowers in upper axils, sometimes crowded terminally; pedicels slender, 2–6 cm. long, glabrous or nearly so; ovary cylindric, glabrous, 8–12 mm. long, 1–2 mm. thick; hypanthium red, 3.5–8 cm. long, 3–4 mm. wide at base, then narrowed to 1.5–2 mm. for less than 1 cm., then abruptly widened to 8–12 mm. for the rest of its length, glabrous without, villous within at base; sepals green, erect-divergent, lance-deltoid, 12–20 mm. long, 5–8 mm. wide, acute, connate for one-fourth their length; petals 0; episepalous stamens about as long as sepals, alternate ones three-fourths as long, yellow; anthers 3–4 mm. long, yellow; style slender, pubescent near base, exerted beyond sepals for 1–5 cm.; stigma elongate-capitate, 2–3 mm. long; fruit glabrous, 2–2.3 cm. long.

KEY TO VARIETIES OF *Fuchsia tuberosa*

- A. Hypanthium 3.5–5 cm. long.....73a. var. *typica*.  
 AA. Hypanthium 6–8 cm. long.....73b. var. *inflata*.

(73a) **Fuchsia tuberosa** Krause, var. **typica** Munz, new name

(Plate 12, fig. 66)

*Fuchsia tuberosa* KRAUSE, Fedde Rep., 1:170, 1905.

*Fuchsia chloroloba* JOHNSTON, Journ. Arnold Arboretum, 20:243, 1939.

Hypanthium 3.5–5 cm. long.

Type locality, between Sandia and Cuyocuyo, Puno, Peru, at 2700–2800 m., Dept. Cuzco: "Pillahuata," Cerro de Cusilluyoc, 2200–2400 m., *Pennell* based on *Weberbauer 875* at Berlin (photo F, POM). Material seen, PERU: 13973, type no. *chloroloba* (F, GH); Marcapata Valley, 1200 m., *Herrera 1166* (US); between Achirani and Medias-Mayu, 2700 m., *Vargas 11116* (F); Río Tambomayo, from Pillahuata bridge to head of Tambomayo Grade, 1600–2300 m., *West 7094* (GH); between Tanamayo and Tambomayo, 2000 m., *Vargas 70/7094* (F). The Krause description does not mention green sepals, as does Johnston's, but the region, the leaf- and flower-shape, glabrous hypanthium, etc., certainly make *tuberosa* and *chloroloba* the same.

(73b) *Fuchsia tuberosa* Krause var. *inflata* (Schulze-Menz) Munz, new comb.

*Fuchsia inflata* SCHULZE-MENZ, Notizbl. Bot. Gart., Berlin, 15:136, 1940.

Hypanthium 6–8 cm. long.

Type from Cuzco: prov Paucartambo, between the tambos Tres Cruces and Tambomayo, above Cosñipata, at 3100 m., April, 1914, *Weberbauer 6935* (F, GH, POM, US). This does not seem specifically distinct, and more material may show that it is not worth any recognition.

(74) *Fuchsia juntasensis* O. Kuntze

(Plate 12, fig. 67)

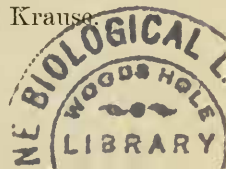
*Fuchsia juntasensis* O. KUNTZE, Rev. Gen. 3, part 2:97, 1898.

*F. Mattoana* KRAUSE, Engl. Jahrb., 37:599, 1906.

*F. Steinbachii* JOHNSTON, Contr. Gray Herb., 75:38, 1925.

Vinelike, usually epiphytic shrub, 5 or more dm. tall, few-branched, the younger twigs usually purplish, subglabrous or sparsely pubescent, the older ones with exfoliating outer tissues; leaves mostly subopposite, tending to fall during anthesis; the blades elliptic- to oblong-ovate, acute to obtuse at base, acuminate at apex, subentire, 4–8 cm. long, 1.5–3.5 cm. wide, sparsely short-pubescent to glabrescent above and beneath, paler beneath than above, principal lateral veins 6–8 on each side of midrib; petioles sparsely pubescent, 5–12 mm. long, ca. 1 mm. wide; stipules subulate, 1–1.5 mm. long, caducous; flowers few, crowded in terminal racemose clusters, often on short lateral twigs; pedicels slender, subglabrous, 1.5–5 cm. long; ovary oblong-fusiform, puberulent to subglabrous, 5–10 mm. long, 2–2.5 mm. wide; hypanthium rose to flesh-colored, tubular-funnelform, 2.5–4.5 cm. long, 2–2.5 mm. wide at base, then slightly narrowed for one-third its length, then gradually ampliate until 5–7 mm. wide at summit, glabrous without, pilose within near base; sepals 4, reddish, ovate-lanceolate, 18–22 mm. long, 5–6 mm. wide, glabrous, sub-acuminate, connate for 2–3 mm. at base; petals none; episepalous stamens 20–26 mm. long, alternate ones 16–20 mm. long; anthers cream, 3–4 mm. long; style pubescent in lower portion, extending 1–1.5 cm. beyond the sepals; stigma green, oblong-globose, 2–3 mm. long, scarcely lobed; berry ellipsoid, about 12 mm. long.

Type locality, east side of Cordillera, at 3000 m., between Cochabamba and Río Juntas, Bolivia. I have not seen the type of *F. juntasensis* so labeled and have had some misgiving about taking up this name for this concept, especially since Kuntze's description sounds as if the calyx were short, giving sepals as 12 mm. long, and even if one adds 3–4 mm. for the connate base, which Kuntze may well not have included as part of the sepals, the length is still rather inadequate. But all other features: glabrous flowers, ovate, acuminate leaves, shape of hypanthium, would point to this concept. Of *F. Mattoana* I have seen only the photograph; between it and *F. Steinbachii* I can see no difference except the somewhat shorter hypanthium (25–28 mm.) given by Krause.



However, a series of specimens seems to break down the validity of this character. For the species which I am calling *F. juntasensis* I have seen the following collections: without locality Herb. O. Kuntze (NY). PERU: between Cuzco and Santa Ana, 3400 m., *Weberbauer 4976*, type of *Mattoana* at Berlin (photo F, POM). BOLIVIA: Depto. Cochabamba: Incachara, 2500 m., *Steinbach 5038*, type *Steinbachii* (NY); Quebrada de Corani, prov. Chapare, 2400 m., *Steinbach 9862* (F, GH, NY). The species differs from *F. apetala* in its glabrous flowers and more southern range.

(75) **Fuchsia membranacea** Hemsley

*Fuchsia membranacea* HEMSLEY, Journ. Bot., 14:70, 1876.

Shrub, glabrous throughout except for the minute pubescence on the upper surface of the young leaves which may persist along the veins; branches few, younger ones purplish, 2.5–3.5 mm. thick, older ones exfoliating; leaves subopposite, well developed at anthesis, the blades membranaceous, oblong-ovate, remotely denticulate, paler beneath, rounded at base, short-acuminate at apex, 3–5.5 cm. long, 1.5–3.5 cm. wide, with 6–7 principal lateral veins on each side of midrib; petioles puberulent, 6–15 mm. long, scarcely 1 mm. wide; stipules subulate-deltoid, about 0.5 mm. long; flowers axillary; pedicels slender, 2.5–4 cm. long; ovary oblong, 5–7 mm. long, 2 mm. thick; hypanthium tubular-funneliform, 4–5 cm. long, slightly enlarged and 2.5 mm. wide at base, then 1.5–2 mm. wide for about 1 cm., then gradually widened in upper half until 7–9 mm. broad, glabrous without, pubescent within near base; sepals divergent, ovate-lanceolate, 18–22 mm. long, 6–7 mm. wide, subacuminate, very little connate at base; petals 0; episepalous stamens 14–20 mm. long, alternate ones 9–15 mm. long; anthers 2–3 mm. long; style pubescent in lower portion, scarcely extended beyond sepals; stigma oblong-capitate, 2–3 mm. long; berry short-ellipsoid, about 1 cm. long.

Type locality, Caracas, Venezuela; type based on *Linden 372*, of which number I have seen fragment (F) and photo (F, POM). Other material seen, VENEZUELA: state of Trujillo: Páramo de la Cristalina, 2900 m., *Jahn 12* (US). Mérida: Páramo de Timotes, 3000 m., *Jahn 508* (GH, US). Like *F. juntasensis*, the species has glabrous flowers, but it is leafy at anthesis and has shorter stamens.

(76) **Fuchsia salicifolia** Hemsley

*Fuchsia salicifolia* HEMSLEY, Journ. Bot., 14:70, 1876.

Epiphytic shrub, mostly glabrous except about the flowers; branchlets few, purplish with persistent epidermis; leaves fully developed during anthesis, alternate, lanceolate, obtuse at base, long-acuminate at apex, remotely denticulate, thickish, with about 10 principal lateral veins on each side of midrib, the blades 6–10 cm. long, 2–2.6 cm. wide; petioles ca. 1 cm. long, 1.5 mm. wide; stipules not seen; flowers few, axillary; pedicels 2–2.5 cm. long, slender,



pubescent, with some gland-tipped hairs; ovary linear-oblong, 1 cm. long, 2–2.5 mm. wide; hypanthium tubular-funnelform, 4–5.5 cm. long, sparsely glandular-pubescent without, 2.5 mm. thick at base, then narrower for about 1 cm., then gradually widened to 7 mm.; sepals lanceolate, acuminate, spreading, ca. 3 cm. long, 1 cm. wide, connate at base for 2–3 mm.; petals 0; episepalous stamens about 27 mm. long; alternate ones 20 mm. long; anthers 3–4 mm. long; style exerted; stigma “clavate”; berry about 2 cm. long.

Type locality, Sandillani; I am not sure whether this is in southern Peru or in Bolivia. The only specimen I have seen which I can refer here is from Unduavi, North Yungas, Bolivia at 2450 m., *Rusby 1803* (NY); it is a specimen with 1 leaf and 1 flower. The species seems distinct in its narrow leaf, subglabrous condition and long sepals. In hypanthium-shape it seems near *F. apetala*.

(77) **Fuchsia tunariensis** O. Kuntze

(Plate 13, fig. 68)

*Fuchsia tunariensis* O. KUNTZE, Rev. Gen. Pl., 3, part 2:98, 1898.

Epiphytic or prostrate to scandent shrub with tuberous roots; stems up to 8 dm. long, few-branched, the young growth pallid with densely velvet pubescence; twigs often knotty and irregular, purplish, densely pubescent; leaves largely subopposite, tending to be deciduous at anthesis; blades elliptic-oblong-ovate, 4–15 cm. long, 2–6 cm. wide, membranaceous, densely fine-pubescent, velvety when young, entire, rounded to obtuse at base, subacuminate at apex; petioles 5–20 mm. long, densely pubescent, about 1 mm. wide; stipules subulate, gland-like, scarcely 1 mm. long, deciduous; flowers few, solitary in uppermost axils; pedicels densely pubescent, 1–1.5 cm. long; ovary densely short-pubescent, oblong, 5–8 mm. long; hypanthium red to pinkish, tubular-funnelform, 4.5–5.5 cm. long, densely short-pubescent without, pilose within lower portion, 2.5–3 mm. wide at base, then 1.5–2 mm. wide for about 1.5 cm., then gradually ampliate until 5–8 mm. wide at mouth; sepals red, lance-ovate, acute, 18–22 mm. long, connate for about 3 mm. at base; petals 0; episepalous stamens 13–18 mm. long, alternate ones 10–13 mm. long; anthers about 3 mm. long; style pilose at base, scarcely exerted or as much as 1 cm. longer than sepals; stigma ca. 2 mm. long, subglobose; fruit hairy, ellipsoid, almost 2 cm. long.

Type locality, “Tunarigebirge,” Cochabamba, Bolivia, at 3000 m. The type in Herb. Otto Kuntze (NY) is badly broken, the solitary flower has pedicel, ovary and lower half of hypanthium, but the pubescence is very characteristic. In fact, it is the close, fine, dense pubescence which distinguishes this species, of which I have seen the following representation: PERU: Cuzco, prov. Paucartambo, below “Pillahuata,” 2300 m., *West 7106* (GII) with rather large sepals, but typical pubescence. BOLIVIA: Cochabamba: Tunari. *Kuntze in 1892*, type (NY); Ayopaya, Sailapata, 3500 m., *Cárdenas 3393* (US), *3369* (US). Pongo, *Tate 188* (NY).

(78) *Fuchsia apetala* Ruiz and Pavón

(Plate 13, fig. 69)

*Fuchsia apetala* RUIZ and PAVÓN, Fl. Peruv., 3:89, pl. 322, fig. b, 1802.*F. insignis* HEMSLEY, Journ. Bot., 14:69, 1876; three collections were cited from Ecuador, 2 by Jameson and 1 by Spruce. The last which cannot be taken as the type, is the only one I have seen, but I am unable to separate *insignis* from *apetala*.

Vine-like shrub, often epiphytic, up to about 1 m. high, the younger branches reddish, more or less pubescent, with some gland-tipped hairs, rather coarse, commonly 3–5 mm. thick, with exfoliating epidermis and frequently with adventitious roots; leaves largely deciduous at anthesis, alternate, the blades elliptic-ovate, subentire, rounded to subcordate at base, acute to acuminate at apex, somewhat coriaceous, finely pubescent to glabrescent above, villous beneath, especially beneath on midrib and veins, principal lateral veins 6–8 on each side of midrib; leaf-blades 5–9 cm. long, 3–4.5 cm. wide; petioles 1.5–2.5 cm. long, somewhat villous, 1.5–2 mm. wide; stipules subulate, 1.5–2 mm. long, caducous; flowers few, crowded near apex of branchlets; pedicels slender, 1.5–2.5 cm. long, villous, with some gland-tipped hairs; ovary cylindrical, 8–15 mm. long, villous, 2–4 mm. thick; hypanthium orange-scarlet, 4–5.5 cm. long, tubular-funnelform, 3–5 mm. wide at bulbous base, then abruptly narrowed to 1.5–3 mm. for about 1 cm., then gradually amplified until 7–11 mm. wide, sparsely glandular-villous without, villous within lower portion; sepals reddish-orange, more or less spreading, lance-ovate, 22–25 mm. long, 8–10 mm. wide, acute to obtusish, pubescent without, connate for 2–3 mm. at base; petals 0; episepalous stamens 25–30 mm. long, alternate 18–20 mm. long; anthers green, 3–4 mm. long; style pubescent at base, exerted 1–2 cm. beyond the sepals; stigma subglobose, 2–3 mm. long, usually scarcely lobed; fruit oblong, red.

Type locality "Habitat copiose in Huassahuassi et Muña," Peru. At Field Museum are fragments of what I here consider to be *apetala* mixed with *F. macrantha* Hook., collected by Ruiz and Pavón; my judgment as to which is to be taken as *apetala* is based on the plate by Ruiz and Pavón. I prefer, since this Ruiz and Pavón material in its present condition contains both entities and since I believe these are separable on the basis of geographical and morphological characters, to keep the name *apetala* for the Ruiz and Pavón plant that was illustrated, rather than to treat all as one thing as does Macbride (Field Mus. Nat. Hist., Bot. 13:part 4, no. 1:546, 1941). I would refer the following material to *apetala*, VENEZUELA: Mérida: Páramo de Aricagua, 2000 m., *Jahn 1030* (US); Páramo de San José, 2400 m., *Jahn 969* (US); Páramo de Mueuehachí, 1800 m., *Jahn 981* (US). ECUADOR: between Cuenea and Huigra, Chimborazo, 2700–3000 m., *Hitchcock 21701* (GH, NY, US); Huigra, *Rose and Rose 22230* (GH, NY, US); Mt. Azuay, *Spruce 5976* (GH, NY, photo of Geneva specimen at F, POM). PERU?: Churupullana, *Dombey* ex Herb. Mus. Paris (F). I can see no difference between the Venezuela and Ecuador specimens in spite of the discontinuous distribution.

(79) **Fuchsia hirsuta** Hemsley

(Plate 13, fig. 70)

*Fuchsia hirsuta* HEMSLEY, Journ. Bot., 14:69, 1876.

Tuber-bearing, climbing, epiphytic shrub or scandent over faces of cliffs, few-branched, mostly leafless at anthesis, the younger twigs 3–8 mm. thick, knotty, tortuose, densely pilose with white hairs not over 1 mm. long, more or less purplish underneath the hairs; leaves alternate, ovate to oblong-ovate, membranous, subentire to denticulate, rounded at base, acute to almost acuminate at apex, densely pilose on both surfaces when young, more or less glabrescent except for veins of under surface, principal lateral veins 5–8 on each side of midrib; leaf-blades 6–12 cm. long, 3.5–6 cm. wide; petioles pilose, 1–4 cm. long, 1.5–2 mm. wide; stipules pilose, lanceolate, ca. 1 mm. long; flowers few to many, crowded near tips especially of lateral twigs; pedicels slender, pilose, 1–1.5 cm. long; ovary cylindric, densely shaggy-pilose and pubescent, 8–12 mm. long, 1.5–2.5 mm. thick; hypanthium tubular-funnelform, densely pilose and pubescent, with some hairs gland-tipped, fiery to purplish red, 3–5.5 cm. long, 2–3 mm. thick at base, then slightly narrowed for one-third its length and then rather abruptly widened into the cylindrical upper part which is 8–10 mm. wide, pilose within the lower portion; sepals reddish, ovate to lance-ovate, obtuse to acute, pilose on backs, 15–20 mm. long, 7–10 mm. wide, connate only a short distance at base; petals 0; episepalous stamens 15–18 mm. long, alternate ones two-thirds as long; anthers about 3 mm. long; style pilose above the base, extending to as much as 1.5 cm. beyond the sepals; stigma about 2 mm. long; berry narrowly ellipsoid, almost 2 cm. long.

Type locality, "Peruvia"; I have not seen the type, *Lechler 1989*. The species is included in *F. apetala* by Macbride (Field Mus. Nat. Hist., Bot., 13, part 4, no. 1:546, 1941), but to me it is a more southern entity with short sepals and more included stamens, gray-pilose and shaggy ovaries and hypanthia. I have seen from PERU: Ayacucho: Punaccuanca Pass, 4100 m., *West 3669* (GH). Cuzco: prov. Paucartambo, disto. Marcachea, forest of Pucará, 3400 m., *Vargas 11170* (F); below Tres Cruces, *Weberbauer 6975* (F, GH); prov. Urubamba, disto. Chincheros, Chincheros, 3700 m., *Vargas 9602* (F); Yucay, 3000 m., *Soukup 715* (F); Cuzco, 2500 m., *Herrera 2189* (GH); Saxaihuaman, *Herrera 2189* (F); Combapata, Canehis, 3700 m., *Vargas 1900* (GH). Puno, *Soukup 525* (F). BOLIVIA: La Paz: Ingenio, between Soratá and Mapiiri, 3700 m., *Cárdenas 1142* (NY); La Paz: prov. Larecaja, near Soratá, *Mandon 629* (F, GH); Pongo, *White 248* (GH, US).

(80) **Fuchsia unduavensis** Munz, new species

(Plate 13, fig. 71)

Much like *F. hirsuta*, but with leaves well developed at time of flowering, blades elliptic-ovate, 7–10 cm. long, 2–5 cm. wide, with 6–7 principal lateral

veins on each side of midrib; young stems, ovaries, pedicels, hypanthia with spreading, brownish hairs about 1.5 mm. long; hypanthium 4.5–5.5 cm. long. 7–8 mm. wide in upper part; sepals 2 cm. long, lance-ovate, acute to obtusish.

*F. hirsutae* similis, foliis ad anthesin praesentibus, elliptico-ovatis, laminis 7–10 cm. longis, 2–5 cm. latis; caulibus junioribus, ovariis, pedicelis, hypanthiis capillis fuscis et 1.5 mm. longis vestitis; hypanthio 4.5–5.5 cm. longo, supra 7–8 mm. lato; sepalis 2 cm. longis, lanceolato-ovatis, acutis vel subobtusis.

*Type: Unduavi, North Yungas, Bolivia, at 3600 m., Feb. 13, 1907, Buchtien 2925, United States Nat. Herb. 1177335. Other collections from same place: at 3200 m., Nov., 1910, Buchtien (F), at 3600 m., Nov., 1910, Buchtien 2925 (US).*

(81) **Fuchsia Garleppiana** Kuntze and Wittmack

(Plate 14, fig. 72)

*Fuchsia Garleppiana* KUNTZE and WITTM., Gartenfl., 47:461, fig. 96, 1893.

Tuberous, the thickened roots said to be 20–90 cm. long; slender-stemmed, few-branched, up to 1 m. high, epiphytic or on wet slopes, the ultimate branchlets reddish, soft-pubescent, 2–4 mm. thick, tardily exfoliating; leaves alternate, well developed at anthesis, ovate to oblong-ovate, the blades thin, rounded to subcordate at base, subacuminate at apex, subentire to remotely denticulate, finely pubescent above and beneath, with 8–9 principal veins on each side of midrib; blades 6–10 cm. long, 4–6 cm. wide; petioles pubescent, 2.5–7 cm. long, about 1 mm. wide; stipules lanceolate, scarcely 1 mm. long, deciduous; flowers in axils on main growing branches; pedicels slender, soft-pubescent, 3–5 cm. long; ovary 5–10 mm. long at anthesis, soft-pubescent, 2–3 mm. thick; hypanthium 10–14 cm. long, subcylindric, finely pubescent without and within, pink, 5–6 mm. thick at base, then narrowed to 2–3 mm. and then gradually wider until 8–10 mm. broad below the somewhat contracted mouth; sepals pink, lance-ovate, acute, somewhat divergent, 13–18 mm. long, 5–7 mm. wide, connate almost one-half their length, fine-pubescent on both surfaces; petals 0; episepalous stamens about three-fourths, alternate ones about two-thirds the sepals; anthers 2.5–3.5 mm. long; style pubescent near the base, slender, scarcely extending beyond the sepals; stigma subglobose, 2–3 mm. thick; fruit not seen.

Type locality, Cocapata, Cochabamba, Bolivia, at 3000 m. in the Tunari Mts. The species is near to *F. macrantha* in its long hypanthium, but differs in many respects: flowers not on spur-like branchlets, plant leafy at anthesis, petioles longer and more slender, pubescence finer and shorter, sepals hairy on both surfaces, filaments pubescent; hypanthium narrowed at end. Material seen, PERU: Dépt. du Cuzco, Aout., 1847, *Weddell*, from Herb. Mus. Paris (F). BOLIVIA: Cochabamba: Incachaca, 2700 m., *Cárdenas 688* (US); Incacorral-Aduana, Chapare, 2700 m., *Steinbach 9538* (GH, NY); Tunarigebirge, 3000 m., Herbarium *Otto Kuntze*, type coll. (F).



(82) *Fuchsia macrantha* Hooker

(Plate 14, fig. 73)

*Fuchsia macrantha* Hook., Bot. Mag., 72:pl. 4233, 1846.

Low, trailing or straggling, or epiphytic, few-branched, the twigs 2.5–6 mm. thick, pubescent to villous, with some hairs gland-tipped, freely exfoliating; leaves largely lacking at anthesis, alternate, elliptic-ovate, acute, subentire, rounded or subcordate at base, pubescent above, pilose beneath especially on veins and when young, with 6–7 principal lateral veins on each side of midrib, blades 4–9 cm. long, 3–6 cm. wide; petioles 1–2 (3.5) cm. long, more or less pilose, 1–2 mm. wide; stipules lance-deltoid, 0.5 mm. long, deciduous; flowers crowded on short branchlets; pedicels slender, pubescent, 1–2 cm. long; ovary linear, pubescent, 6–12 mm. long, 1.5–3.5 mm. thick; hypanthium rose-red, to coral or scarlet, subcylindric to cylindro-fusiform, 6–12 cm. long, 3–8 mm. wide at base, then narrower and very gradually ampliate until 5–12 mm. wide below the mouth, 8-ribbed, finely pubescent, with some hairs gland-tipped, villous within near base; sepals ovate to lance-ovate, divergent, 1.5–2.5 cm. long, 0.7–1.2 cm. wide, tips greenish yellow, somewhat pubescent on both surfaces, obtusish, connate about half their length; petals 0; episepalous stamens about three-fourths the sepals, alternate ones slightly shorter; filaments glabrous; anthers yellow, 2.5–4.5 mm. long; style pubescent just above the ovary, slender, exerted 5–20 mm. beyond the calyx; stigma conico-spherical, greenish, 2–4 mm. long, scarcely lobed.

Type locality, Cundimarca, Peru. Material seen, PERU: locality not given, *Pavón 1826*, as *apetala*, Geneva specimen (photo F, POM); Peru, mixed with *apetala*, *Ruiz and Pavón*, Madrid Herb. (F). Húanuco: Villecabamba, hacienda on Río Chinchao, 1800 m., *Macbride 4970* (F, GH); Tambo de Vaca, 4000 m., *Macbride 4901* (F, GH, US). Apurimac: prov. de Abancay, bosques del Ampay, 3200–3500 m., *C. Vargas C. 1000* (GH). Dept. not known: Lucumayo Valley, 1800–3600 m., *Cook and Gilbert 1312* (US). *Macbride 4970* and *Vargas 1000* tend to have the hypanthium somewhat fusiform and for a time seemed to me worth recognizing as a separate entity, but the material is insufficient.

(83) *Fuchsia cestroides* Schulze-Menz

(Plate 14, fig. 74)

*Fuchsia cestroides* SCHULZE-MENZ, Notizbl. Bot. Gart., Berlin, 15:317, 1940; MACBRIDE, Field Mus. Nat. Hist., Bot. 13, part 4, no. 1:550, 1941.

Erect shrub, 3 m. tall, the young twigs densely puberulent to subpilose, 1.5–3 mm. thick, somewhat reddish in color; leaves present at anthesis, mostly ternate, not crowded, firm-membranaceous, elliptic-obovate to oblong-ovate, obtuse to acute at base, acuminate to acute at apex, plainly and rather closely serrulate, subglabrous to hispidulous-puberulent above, paler and short-pilose beneath especially on the veins, principal lateral veins 14–16 on each

side of midrib, submarginal scarcely developed; leaf-blades 4–8 (10) cm. long, 2–3.5 (4) cm. wide; petioles 3–6 mm. long, pubescent; stipules subulate, often reflexed, about 1 mm. long, deciduous; flowers numerous in short lateral racemes or terminal panicles; bracts lanceolate to linear, pilose, 3–15 mm. long; pedicels pilose, slender, 3–5 mm. long; ovary fusiform, pilose, 2–4 mm. long; hypanthium dark red, 17–18 mm. long, 1–1.5 mm. wide at base, then somewhat narrowed until gradually widened to 4 mm. at summit, pilose without, glabrous within; sepals lanceolate, 6–7 mm. long, 2.5 mm. wide, pilose on backs, somewhat divergent, acute; petals 0; stamens 7–8 and 5–6 mm. long, exerted; anthers 1 mm. long; style glabrous, exceeding sepals by 6–7 mm.; stigma narrow, about 1 mm. long; berry apparently ellipsoid, at least 6 mm. long.

Type locality, below Frias, prov. Ayabaca, Piura, Peru, at 1100–1200 m., the type collection, *Weberbauer 6423* (F, GH, US). This species is not at all close to the other apetalous ones, and probably should not be placed with them. It differs in its many veins, smaller flowers, etc., and suggests in general appearance *F. Lehmannii*.

#### SECTION 6. SCHUFIA (Spach) Munz new section

*Schufia*, as genus, SPACH, Ann. Sci. Nat., (2), 4:177, 1835.

*Schufia*, as subsection, ENDLICHER, Gen. Pl., 1193, 1840.

Flowers erect in a terminal cymose panicle, arranged subtrichotomously. Leaves opposite or verticillate. Nectary fused with base of hypanthium.

One species, *F. arborescens* Sims.

#### (84) *Fuchsia aborescens* Sims

*Fuchsia arborescens* SIMS, Curtis Bot. Mag., 53:2620, 1826.

Low shrub to small tree up to 8 m. tall, sometimes epiphytic, glabrous or nearly so; branchlets, petioles and veins sometimes tinged with red; leaves opposite or ternate, oblong-oblancoate to oblong-elliptic, acute or acuminate at both ends, paler beneath than above, entire to serrulate, blades 3–20 cm. long, 1–7 cm. wide, with 9–13 principal lateral veins; flowers numerous, crowded in corymbose panicles 5–25 cm. long and equally wide, lower branches of inflorescence with few reduced leaves, upper floriferous ones with much reduced, deciduous, subulate bracts; pedicels reddish, slender, erect, 5–15 (25) mm. long; hypanthium tubular to funnelform, rose to magenta, 3–5 mm. long, 1–3 mm. wide at summit in pressed specimens; sepals reddish to wine-purple, linear to lance-oblong, not apiculate in bud, 3–7 mm. long, 1–2.5 mm. wide, spreading-reflexed at anthesis; petals lavender or lilac, lance-ovate, two-thirds as long as sepals, spreading; episealous stamens exceeding sepals, 4–8 mm. long, epipetalous two-thirds as long; filaments pinkish lavender, anthers purplish, 1–1.6 mm. long; style just longer than stamens, filiform, glabrous; stigma purplish, conic, about 0.5 mm. long; berry purplish, covered with blue bloom, subglobose, 7–10 mm. thick.

KEY TO FORMS OF *Fuchsia arborescens*

A. Sepals 4.5–7 mm. long; hypanthium 4.5–8 mm. long.

B. Sepals 1.5–2.5 mm. wide; hypanthium 2–3 mm. wide.....84a. f. *typica*.

BB. Sepals 1–1.5 mm. wide; hypanthium 1 mm. wide.....84b. f. *tenuis*.

AA. Sepals 3–4.5 mm. long; hypanthium 3–4 mm. long.....84c. f. *parva*.

(84a) *Fuchsia arborescens* Sims forma *typica* new name

(Plate 14, fig. 75)

*F. arborescens* SIMS, Curtis Bot. Mag., 2620, 1826; LINDL., Bot. Reg., 11:943, 1826.

*Schufia arborescens* SPACH, Ann. Sci. Nat., (2), 4:177, 1835.

*F. hamellioides* MOC. and SESSÉ ex. G. Don, Gen. Syst., 2:677, 1832, in synonym. Have seen no material.

*F. syringaeiflora* CARR., Rev. Hortie., 1873:311, 1873; judging from plate.

*F. arborea* SESSÉ and MOC., Pl. N. Hispan., ed. 1, 58, 1887–'90; type seen.

*F. arborescens* var. (?) *megalantha* DONNELL SMITH, Bot. Gaz., 18:2, 1893. Type seen; agrees well in broad sepals, etc., with Sims' plate.

*F. Liebmanni* LÉVL., Bull. Geogr. Bot., 22:24, 1912. Photograph of type seen.

Hypanthium 4.5–8 mm. long, 2–3 mm. wide at summit; sepals 4.5–7 mm. long, mostly 2–2.5 mm. wide.

Type locality, Mexico. Ranging at altitudes of 1000–2500 m., from Morelos and Guerrero to Panamá; the most common form of the species. In this treatment of *F. arborescens*, forms rather than varieties are being recognized, since there is no geographical correlation and the intergradation is so complete. Representative material of f. *typica* is, MEXICO, without definite locality, "*F. arborea*," Sessé, Mociño, Castillo y Maldonado 5216 (F). Morelos, mts. above Cuernavaca, Pringle 6825 (F, GH, MICH, NY, POM, US). Guerrero, Sierra Madre del Sur, Distrito Mina, 2d ridge west of Petlacala, Mexia 9052 (GH, NY). Vera Cruz, Xalapa, Galeotti 3035 (NY). Puebla, St. Vincent, Nicolas 11 (F, NY); Puebla, Bro. Arsène in 1909 (US). Oaxaca, Sierra de San Felipe, Pringle 6242 (F, NY, GH, CAS, POM, US); Barranca de San Luis, Conzatti 1538 (US). GUATEMALA: Alta Vera Paz, near San José, s.e. of Tactic, Standley 69660 (F), Tactic, von Tuerckheim under J. D. Smith 8395 (F, NY, US). Quezaltenango, Volcán de Santa María, Steyermark 33616 (F); Cumbre de Tuilacán, Standley 67808 (F); Volcán de Zunil, Skutch 877 (F). Chimaltenango, Chichavac Teepán, Skutch 255 (US); Chichavac, Skutch 59 (US); Las Calderas, Standley 60074 (F). Sacatepéquez, Volcán de Agua, Maxon and Hay 3745 (US), Standley 65066 (F); Volcán de Acatenango, J. D. Smith 2469, type no. var. *megalantha* (GH, US). COSTA RICA: Alajuela, Volcán de Poás, Cufodonti 601 (F). San José, La Hondura, Standley 36587 (US); between Guayabillos and Cabeza de Vaca, Dodge and Thomas 4936 (F, MICH, US); La Palma, Tonduz under J. D. Smith 7410 (F, GH, US). Cartago, Volcán de Turrialba, Pittier under J. D. Smith 7508 (F, US); Volcán de Irazú, Oersted, type *F. Liebmanni* at Copenhagen (photographs F, POM). PANAMA: Chiriquí, el Boquete, Pittier 2974 (US); Casita Alta, Volcán de Chiriquí, Woodson, Allen and Seibert 797 (MO, POM).

(84b) *Fuchsia arborescens* Sims forma *tenuis* new form

Hypanthium tubular, 5–6 mm. long, 1 mm. wide; sepals linear, 5–6 mm. long, 1–1.5 mm. wide.

Hypanthium tubulosum, 5–6 mm. longum, 1 mm. latum; sepalis linearibus, 5–6 mm. longis, 1–1.5 mm. latis.

*Type: Vara Blanca de Sarapiquí, north slope of Central Cordillera, between Poás and Barba Volcanoes, Costa Rica, alt. 1740 m., Oct., 1937, A. F. Skutch 3357 (US 1643234); isotype (NY). With about same range as f. typica. Representative material, MEXICO: Michoacán and Guerrero, Sierra Madre, Langlassé 872 (F, GH, US). Orizaba, Botteri (F, GH). Chiapas, San Cristóbal, E. W. Nelson 3236a (US); Mt. Pasitar, Matuda 1695 (MICH). GUATEMALA: Alta Vera Paz, Cobán, von Tuerckheim II 713 (F, US). Quezaltenango: Fuentes Georginas, w. slope Volcán de Zunil, Standley 67493 (F). Solola, Volcán de Atitlan, Hatch and Wilson in 1936 (F). Chimaltenango: Chichavae, Skutch 750 (F). PANAMA: Chiriquí: Casita Alta, Volcán de Chiriquí, Woodson, Allen and Seibert 911 (MO, POM); El Boquete, Maxon 5015 (NY, GH, US). COLOMBIA: Dept. Boyacá: Labranzgrande, 1150 m., B. Guevara Amórtegui 389, in 1932 (F, US). Since this is the only collection I have seen from south of Panamá, I cannot help wonder whether it represents an introduction or not.*

Intergrades with *f. typica* are numerous; among such may be cited, Oaxaca: Coyula a Cuyamecalco, Cancim 2438 (US); Chiapas, Mt. Orlando, Matuda 0437 (F, MICH, US); Vera Paz in Guatemala: Chucaneb, J. D. Smith 182 (F, GH, NY, US); Huehuetenango, Yalambofroch, Selser 2869 (GH, US); San José in Costa Rica: Between Aserri and Tarbaca, Standley 34100 (US).

(84c) *Fuchsia arborescens* Sims forma *parva* Munz, new form

*F. paniculata* LINDL., Gard. Chron., 1856:301, 1856. Type not seen, but the "much smaller flowers" of the description would probably mean this.

Hypanthium funnelform, 3–4 mm. long, 1.5 mm. wide; sepals 3–4 mm. long, 1 mm. wide.

Hypanthium 3–4 mm. longum, 1.5 mm. latum; sepalis 3–4 mm. longis, 1 mm. latis.

*Type: Finca Pireneos, below Santa María de Jesús, Dept. Quezaltenango, Guatemala, March 11, 1939, Standley 68287, Pomona College Herb. No. 254648; isotype Field Museum 988800. With much the same range as the other forms; for example, MEXICO: Oaxaca, Tonagua, Galtotti 3035 (US). Vera Cruz, Jalapa, Walters (NY); Barranca de Tenampa, Zacuapan, Purpus 7647 (NY, US). Chiapas, Volcán de Tacaná, Matuda 2924 (MICH); Cerro del Boquerón, Purpus 6970 (NY, US). GUATEMALA: Quezaltenango, Fuentes Georginas, Volcán de Zunil, Standley 67356 (F, POM); Pirenos above San Felipe, Standley 68287 (F, POM). Quiché, San Miguel Uspantán, Heyde and Lux under J. D. Smith 3000 (US). Alta Vera Paz: Cobán, von Tuerckheim in 1908 (NY). Sacatepéquez, Volcán de Agua, Kellerman in 1905 (US). Zacapa,*



Sierra de las Minas, *Steiermark 29996* (F). Chiquimula, Montaña Norte to El Jutal, *Steiermark 31042* (F). COSTA RICA: Alajuela, La Ventolera, Volcán de Poás, *Standley 34580* (US). PANAMA: Chiriquí, Río Chiriquí Viejo, *Allen 1351* (MO, NY, GH, POM), *White 179* (MO, POM).

Intergrades with *f. tenuis* are, MEXICO, Chiapas, Mt. Pasitar, *Matuda 1695* (MICH, NY). COSTA RICA: San José, Laguna de la Chonta, *Standley 42260* (US); Cartago, Volcán de Irazú, La Esperanza, *Standley 35374* (US).

#### SECTION 7. ENCLIANDRA (Zucc.) Endlicher

*Encliandra* (Zucc.) ENDLICHER, Gen Pl., 1183, 1840; BENTH. and HOOK., Gen. Pl., 1, part 3:791, 1862.

As genus, ZUCCARINI, Abh. Akad. Muenchen, II:335, 1837; spelled *Eucliandra*, STEUD., Nom. ed., 2, 1:600, 1840.

*Brebissonia* SPACH, Hist. Nat. Vég. Phan., 4:401, 1835; Ann. Sci. Nat., (2), 4:175, 1835; as subsect., ENDLICHER, l.c.

*Lyciopsis* SPACH, l.c., 176; as subsect., ENDLICHER, l.c.

*Myrnia* LILJA, Fl. sverig. Vexter., Suppl. 1:25, 1840.

Flowers polygamous. Petals flat. Stamens short, equal, the epipetalous reflexed into the hypanthium. Berry few-seeded. Slender shrubs with opposite leaves, small solitary axillary flowers.

Type species, *Fuchsia Encliandra* Steud.

#### KEY TO SPECIES OF SECTION ENCLIANDRA

- A. Hypanthium obconic; sepals more than half as long as hypanthium, generally reflexed at anthesis.
- B. Leaf-blades mostly less than 2 cm. long, rounded to obtuse at base, obtuse to acute at apex; petioles not more than 1 cm. long.
- C. Hypanthium 4–6 mm. long; sepals 4–5 mm. long.....85. *F. thymifolia*.
- CC. Hypanthium 1–3 mm. long; sepals 1.5–3 mm. long.
- D. Sepal-tips connivent in bud; hypanthium 2–3 mm. long.
- E. Petals 2–3 mm. long; sepals 2–3 mm. long. Hidalgo to Michoacán.  
86. *F. Pringlei*.
- EE. Petals 1 mm. long; sepals 1.5 mm. long. Volcán de Colima.  
87. *F. colimae*.
- DD. Sepal-tips spreading in bud; hypanthium 1–2 mm. long; petals 1–1.5 mm. long. Mexico to Chiapas.....88. *F. minimiflora*.
- BB. Leaf-blades mostly 2–5 (7) cm. long, acute at base, subacuminate at apex; petioles 1–3 cm. long.
- C. Hypanthium longer than wide; stamens included; young growth subglabrous to pubescent. ....89. *F. tacanensis*.
- CC. Hypanthium not longer than wide in pressed flowers; stamens evident; young growth fine-strigulose. ....90. *F. Skutchiana*.
- AA. Hypanthium subcylindric; sepals usually not more than half the hypanthium, ascending to somewhat spreading at anthesis.
- B. Leaves subcoriaceous, frequently conspicuously serrulate.
- C. Plant quite glabrous; hypanthium 5–6 mm. long, 1.5–2.5 mm. wide at summit; sepals 3–5 mm. long. Guerrero to Chiapas.....91. *F. bacillaris*.
- CC. Plant puberulent on young twigs, hypanthia, etc.
- D. Leaf-blades 3–8 (10) mm. long; hypanthium 3–4 mm. long; sepals 2–2.5 mm. long; petals 1.5–2 mm. long. Hidalgo, Vera Cruz, Mexico.  
92. *F. minutiflora*.

- DD. Leaf-blades 7-20 or more mm. long.  
 E. Hypanthium 5-9 (11) mm. long; sepals 2.5-5 mm. long.  
 F. Hypanthium 7-9 (11) mm. long, 2.5-5 (6) mm. wide in the perfect flowers. Hidalgo to Guatemala. . . . .93. *F. microphylla*.  
 FF. Hypanthium 5-7 (9) mm. long, 1-2 mm. wide. Costa Rica to Panamá. . . . .94. *F. Hemsleyana*.  
 EE. Hypanthium 3-4 mm. long, 1 mm. wide; sepals 2 mm. long. Chiapas. . . . .95. *F. striolata*.
- BB. Leaves membranaceous, often subentire.  
 C. Leaf-blades mostly less than 3 cm. long, usually pilose beneath; sepals 2-3 mm. long; petals 0.6-2 mm. long. Michoacán to Costa Rica. . . . .96. *F. michoacanensis*.
- CC. Leaf-blades not pilose beneath, or if so, larger.  
 D. The leaf-blades 8-15 (20) mm. long; hypanthium of staminate flowers 6-8 mm. long, 2-3 mm. wide. Hidalgo to Oaxaca. . . . .97. *F. Encliandra*.  
 DD. Leaf-blades 20-60 (100) mm. long; hypanthium of staminate flowers mostly 8-10 mm. long, 2.5-3.5 mm. wide.  
 E. Hypanthium of pistillate flowers 1-3 mm. wide; petals red; leaves pubescent or pilose beneath.  
 F. Petioles 3-10 (12) mm. long; branchlets pubescent; leaves subglabrous to strigose above, pilose beneath. State of Mexico to Oaxaca. . . . .98. *F. cylindracea*.  
 FF. Petioles 15-30 (40) mm. long; branchlets puberulent; leaves pubescent on both surfaces. Oaxaca to Guatemala. . . . .99. *F. tetradactyla*.  
 EE. Hypanthium of pistillate flowers barely 1 mm. wide; petals apparently white; leaves subglabrous to minutely puberulent on both surfaces. Jalisco to Morelos. . . . .100. *F. Meaia*.

(85) **Fuchsia thymifolia** H.B.K.

(Plate 15, fig. 76)

*Fuchsia thymifolia* H.B.K., Nov. Gen. et Sp., 6:104, pl. 535, 1823. *F. thymifolia* DC., Prodr., 3:37, 1828; LINDL., Bot. Reg., 15:1284, 1829; SWEET, Brit. Fl. Gard., 4:25, 1829; HEMSLEY, Bot. Biol. Centr. Amer., 1:460, 1880; STANDLEY, Contr. U. S. Nat. Herb., 23:1079, 1924.

*Lopezia thymifolia* WILLD., herb. Link, Jahrb., I. 3:25; ex Link in SCHULT., Mant., 1:50, according to H.B.K., i.e.,

*Lyciopsis thymifolia* SPACH, Ann. Sci. Nat., (2) 4:176, 1835.

*Encliandra thymifolia* LILJA, Linnaea, 15:262, 1841.

*Fuchsia alternans* Moc. and SESSÉ, Fl. Mex. Ieon. ined., ex DC., Prodr., 3:37, 1828, in synonym.

*F. parviflora* LINDL., Bot. Reg., 13:1048, 1827. Type not seen, but the figure given is good.

*F. ovata* SESSÉ and MOCÍÑO ex DC., Prodr., 3:37, 1828, in synonym. Not seen.

Shrub about 1 m. tall, openly branched, with slender puberulent somewhat reddish twigs, the ultimate ones scarcely 1 mm. thick; leaves opposite to alternate, not crowded, elliptic-ovate to round-ovate, subentire, rounded to obtuse at base, obtuse to acute at apex, membranaceous, paler beneath than above, minutely pubescent to subglabrous above, minutely pubescent beneath, somewhat ciliate, the blades 0.7-2 (3) cm. long, 0.5-1.6 cm. wide, with 3-5 pairs lateral veins; petioles very slender, puberulent, 3-10 mm. long, often reddish; stipules subulate, somewhat glandular, scarcely 1 mm. long; flowers solitary,

axillary, white to pink, darker in age; pedicels puberulent, filiform, 5–10 (12) mm. long; hypanthium puberulent without and within, obconic, 4–6 mm. long, 2–3 mm. wide at summit in pressed specimens, whitish to reddish (especially in age); sepals ovate, puberulent, about 4 mm. long, white and spreading-reflexed at anthesis, later red, the subulate tips connivent in bud, 1 mm. long; petals ovate-oblong, spreading, 4 mm. long, white becoming purplish red, obtuse, often undulate; stamens subsessile, the episepalous ones exerted from hypanthium, 1.5 mm. long, the epipetalous included, 1 mm. long; style white, glabrous, exerted, 6–9 mm. long from base of hypanthium; stigma greenish, the lobes erect or spreading, barely 0.5 mm. long; berry globose, glabrate to puberulent, 4–6 mm. long.

Type locality, Pátzcuaro, Michoacán, Mexico. Ranging through several states of south central Mexico; representative material, without locality, fragment *Bonpland 4106* (F); ex horto bot. petropolitano, seeds from Mexico, in 1828 (NY); *Coulter 176* (NY). Hidalgo, Sierra de Pachuca, *Rose and Painter 8023* (US), *6737* (GH, NY, US), *Pringle 9472* (G, US in part), *9794* (F, GH, MICH, NY, US), *Rose, Painter and Rose 8859* (GH, NY, US); El Chico, *Lyonnet 534* (US). Michoacán, Quinceo near Morelia, *Arsène 3228* (GH, US); Cerro Azul, *Arsène 2453* (US). Mexico, Salazar, *Rose and Painter 7035* (US); Federal District, Cerro Xitle, *Russell and Souviron 175* (US); Eslava, *Rusby 342* (NY, US); Pedregal, *Pringle 7206* (GH, US); Contreras Canyon, *Munz 15001* (POM). Vera Cruz, Pedregal Naolingo, *Purpus 296* (US). Sinaloa, El Carrizo, *Ortega 6009* (US).

(86) **Fuchsia Pringlei** Robinson and Seaton

(Plate 15, fig. 77)

*Fuchsia Pringlei* ROBINS and SEAT., Proc. Amer. Acad., 28:106, 1893; STANDLEY, Contr. U. S. Nat. Herb., 23:1079, 1924.

Habit and pubescence of *F. thymifolia*, but leaves closer together, blades mostly less than 1 cm. long, 0.3–0.7 (1) cm. wide; petioles 2–5 (7) mm. long; hypanthium 2–3 mm. long; sepals 2–3 mm. long; petals 2–3 mm. long; style 4–5 mm. long.

Type locality, Pátzcuaro, Michoacán. In the original description were cited: Mts. near Pátzcuaro, *Pringle 5063*; barranca near Guadalajara, *Pringle 5002*, and Mts. near Pátzcuaro, *Pringle 4140*. Since the first two cited were in fruit and only the last had flowers, it should be taken as the type number. Fruiting specimens alone can be distinguished from *F. thymifolia* only with difficulty. The species ranges with *F. thymifolia*. Specimens seen, MEXICO: "*Fuchsia microphylla* N. ic." *Sessé, Mociño, Castillo, y Maldonado 5210* (F); Salto de Agua, *Purpus 1780* (POM, US). Hidalgo, Pachuca, *Rose and Hough 4452* (GH, US). Mexico, Comunidad, Temascaltepec, *Hinton 1814* (GH, US); Popocatepetl, *Purpus 3059* (NY, US); Ixtaccihuatl, *Purpus 370* (US); Cima, *Rose and Painter 7189* (GH, US); Federal district, Sierra de Ajusco, *Pringle 6412* (CAS in part, F in part, MO, NY, US in part), *11988* (F, GH, MICH.

US). Vera Cruz, Acultzinco, *Matuda 1097* (F, MICH, NY); Maltarata, *Matuda 1218* (F, MICH). Morelos, Serrania de Ajusco, *Pringle 7570* (POM); Tres Mariás, *Orcutt 3754* (F, US). Michoacán, Morelia, Cerro Azul, *Arsène in 1909* (F, GH); Pátzcuaro, *Pringle 4140*, type no. (F, GH, CAS, NY, US); Tarascon, *Pringle 13463* (US). Tepic, between Santa Gertrudis and Santa Teresa, *Rose 2117* (US). Jalisco, west of Bolaños, *Rose 2964* (US), not typical; flowers white.

(87) ***Fuchsia minimiflora*** Hemsley

(Plate 15, fig. 79)

*Fuchsia minimiflora* HEMSL., Bot. Biol. Centr. Amer., 1:458, 1880; 5:pl. 28, fig. 1, 1880; STANDLEY, Contr. U. S. Nat. Herb., 23:1079, 1924.

Shrub 1–4 m. tall, loosely branched with long very slender reddish crisp-puberulent twigs; leaves opposite or alternate, ovate to elliptic-ovate, acute at apex, rounded to obtuse at base, subentire to serrulate, paler beneath, subglabrous to minutely crisp-puberulent, the blades mostly 1–2 cm. long, 0.5–1.2 cm. wide; petioles very slender, puberulent, 2–5 mm. long; flowers solitary, axillary; pedicels filiform, puberulent, 4–12 mm. long; hypanthium obconic, 1–2 mm. long, whitish to reddish, puberulent without; sepals lanceolate, reflexed-spreading, whitish to reddish, 1.5–2.5 mm. long, the tips apiculate, spreading in bud; petals oblong-elliptic, white to red, less than 1.5 mm. long; stamens subsessile, less than 1 mm. long; style glabrous, 2–3 mm. long; stigma 4-lobed, the lobes spreading, 0.5–1 mm. long; berry subglobose, glabrate to puberulent, 4–5 mm. thick.

Type locality, Chiapas, Mexico. A species of south-central Mexico, known from but few collections, of which I have seen: MEXICO, state not known to me, Salto de Agua, *Purpus 1780* in part (F). Mexico, Cima, *Rose and Painter 7189* (US); Federal District, Sierra de Ajusco, *Rose and Hay 5521* (US, *Pringle 6412* in part (F, GH, MO, US); District of Temascaltepec, *Hinton 1351* (F, NY). Puebla, Boca del Monte, *Purpus 5828* (F, GH, NY, US). Chiapas, without definite locality, *Linden 680*, type coll., photo of Geneva specimen (F).

(88) ***Fuchsia colimae*** Munz, new species

(Plate 15, fig. 78)

Habit and puberulence of *F. minimiflora*; leaves orbicular-ovate, the blades 5–12 mm. long, 4–11 mm. wide, obscurely serrulate, obtuse to rounded at both ends; petioles 3–5 mm. long; hypanthium whitish-green, 2–2.5 mm. long; sepals white, reflexed-spreading, 1.5 mm. long, the tips not free in the bud; petals white, elliptic-oblong, 1 mm. long; stigma-lobes spreading.

Habitus et puberulencia *Fuchsiae minimiflorae*, foliis orbiculare-ovatis, laminis 5–12 mm. longis, 4–11 mm. latis, obscure serrulatis, obtusis vel rotundatis in extremis utrisque; petiolis 3–5 mm. longis; hypanthio albidio, 2–2.5 mm. longo; sepalis albidis, reflexo-expansis, 1.5 mm. longis; petalis albis, elliptico-oblongis, 1 mm. longis; lobis stigmatibus expansis.

*Type*: from Volcano of Colima, Jalisco, Mexico, July 13, 1892, *M. E. Jones*



224, Pomona College Herbarium 83711; isotypes United States National Herbarium 237441 and at New York Botanical Garden. This species is near *F. minimiflora*, but the sepals are shorter than the hypanthium, the tips are not free in the bud, and the leaves are more rounded.

(89) **Fuchsia tacanensis** Lundell

(Plate 15, fig. 80)

*Fuchsia tacanensis* LUNDELL, Contr. Univ. Mich. Herb., 4:20, 1940.

Shrub up to 4 m. high, open-branched, the ultimate branchlets slender, greenish, subglabrous to pubescent; leaves opposite, the blades membranaceous, rhombic-ovate, abruptly cuneate at base, acuminate at apex, rather evenly and coarsely sinuate-serrulate, paler beneath than above, somewhat strigose above, subglabrous to pilose beneath, 2.5–5 (7) cm. long, 1.2–3.5 (4.2) cm. wide, with 7–9 pairs of lateral veins; petioles slender, subglabrous to pubescent, 1–2 cm. long; pedicels filiform, glabrous to pubescent, mostly 1–2 cm. long; flowers perfect or imperfect; hypanthium obconic, 3–5.5 mm. long, 2–3.5 mm. wide at summit, glabrous to puberulent, greenish to reddish; sepals reflexed-spreading at anthesis, lanceolate, acuminate, usually somewhat pubescent, whitish or greenish, usually shorter than hypanthium, 2.5–6 mm. long, apiculate, the tips 1–2 mm. long, connivent in bud; petals oblong-ovate, white to pink, red in age, 2–3.5 mm. long, more or less emarginate; stamens included, anthers about 1 mm. long; style in perfect flowers 4–7 mm. long; stigma 4-lobed, scarcely 1 mm. long; fruit subglobose, black, 4–5 mm. thick.

Type locality, Volcán de Tacaná, Chiapas, Mexico; the species is known from the following collections, all from MEXICO: without locality, *Schiede* (US); Morelos, barranca above Cuernavaca, *Pringle 6380* (F, GH, CAS, MICH, NY, US); Chiapas, Volcán de Tacaná, *Matuda 2399* (MICH, type); Mt. Pasitar, *Matuda 1686* (MO, NY, MICH, US). *F. tacanensis* is variable in flower-size, pubescence, length of hypanthium, etc., but is distinguished by the large thin toothed leaves, wide hypanthium, long sepal-tips, light-colored flowers, sepals shorter than hypanthium. *Pringle 6380* has staminate more crowded flowers, pedicels less than 1 cm. long.

(90) **Fuchsia Skutchiana** Munz, new species

(Plate 15, fig. 81)

Much like *F. tacanensis* in habit, foliage, etc., but finely strigulose on young branchlets, hypanthia, sepals; leaves more finely strigose; petioles 2–3 cm. long; pedicels 1.5–3 cm. long, strigulose; hypanthium not longer than wide in pressed specimens, 2–3 mm. long, slightly wider; sepals at least as long as hypanthium, reflexed, 2.5–4 mm. long, white to pink, aging red, the tips 1–1.5 mm. long; petals about as long as sepals, white to pink, aging red, emarginate; stamens not included, about 1 mm. long, anthers 0.5 mm. long; style 4–5 mm. long; fruit black, 4–5 mm. thick.

Habitus et folia *Fuchsia tacanensis*; ramulis, hypanthiis sepalisque strigulosis; foliis strigulosis; petiolis 2-3 cm. longis; pedicellis 1.5-3 cm. longis, strigulosis; hypanthio 2-3 mm. longo, latiore; sepalis hypanthio aequalibus, reflexis, 2.5-4 mm. longis, albis vel carneis, in acetate roseis, cum apicibus 1-1.5 mm. longis; petalis sepalis aequalibus, emarginatis, albis vel carneis, in acetate roseis; staminibus non inclusis, 1 mm. longis; antheris 0.5 mm. longis; stylo 4-5 mm. longo; bacca nigra, 4-5 mm. diametro.

*Type*: from near **Quezaltenango, Quezaltenango, Guatemala**, at 2500 m., July 24, 1934, *A. F. Skutch 812* (NY); isotype (F). Other material from same place and on same date, *Skutch 813* (F); Chiapas, Mexico, *Ghiesbreght 730*, in 1864-70 (F, GH, MO).

(91) **Fuchsia bacillaris** Lindley

(Plate 15, fig. 82)

*Fuchsia bacillaris* LINDL., Bot. Reg., 18:1480, 1832; *F. bacillaris* in Curtis, Bot. Mag., 76: 4506, 1850; HEMSLEY, Biol. Centr. Amer., Bot., 1:456, 1880; STANDLEY, Contr. U. S. Nat. Herb., 23:1079, 1924.

Shrub 1-2 m. tall, practically glabrous throughout, openly and finely branched; leaves opposite, subcoriaceous, sinuate-denticulate, paler beneath than above, lance-ovate to elliptic-ovate, more or less cuneate at base, acute to obtuse at apex, sometimes with line of minute hairs on upper surface of midrib; blades 1-3 (4.5) cm. long, 0.5-1.2 (1.5) cm. wide; petioles 3-6 mm. long, sometimes with lines of puberulence; flowers solitary, axillary, apparently perfect or pistillate; pedicels glabrous, filiform, 5-15 mm. long; hypanthium subcylindric, glabrous, red, 5-6 mm. long, 1.5-2.5 mm. wide at summit; sepals spreading-reflexed at anthesis, rose, glabrous, lanceolate, 3-5 mm. long, apiculate, the tips connivent in the bud; petals rose, round-ovate, retuse, 2.5-5 mm. long; stamens included, the anthers 1-1.5 mm. long; style 8-13 mm. long; stigma reddish, the 4 lobes tending to spread; fruit spherical, 4-5 mm. thick.

Type locality, Mexico, seeds sent by J. S. Mill, Esq. This species is an uncertain entity, the exact location of its origin being unknown. It has always been keyed out as being glabrous. The plate by Lindley shows it as having relatively large flowers and is pretty well matched by *Purpus 6708*. Material seen, MEXICO: "seed from Mexico, 1829," Ex horto bot. Petropolitano (NY), matching the Lindley plate and description and is likely authentic material. Guerrero: Mts. near Chilpancingo, *E. W. Nelson 2258* (US), with leaves rather small; Sierra Madre, near Chilpancingo, *Nelson 2232* (US); crest of Sierra Madre, *Langlassé 890* (F, GH, US). Chiapas: Cerro del Boquerón, *Purpus 6708* (F, GH, NY, US). GUATEMALA: Huehuetenango, Sierra Cuchumatanes, *Skutch 1247* (F), twigs slightly pubescent.

(92) **Fuchsia minutiflora** Hemsley

*Fuchsia minutiflora* HEMSLEY, Diag. Pl. Nov., 1:15, 1878; Bot. Biol. Centr. Amer., 1:458, 1880; 5:pl. 28, 1880; STANDLEY, Contr. U. S. Nat. Herb., 23:1079, 1924.

Shrub 1-2 m. tall, with very slender rather numerous branches, the ultimate ones scarcely 1 mm. thick and covered with a loose brownish puberulence, the

hairs more or less spreading, often with incurved tips; leaves mostly opposite, numerous, mostly longer than the internodes, the blades thickish, lance-ovate to -elliptic, conspicuously serrulate with 4-5 teeth on each edge, glabrous, somewhat paler beneath, 3-8 (10) mm. long, 2-5 (7) mm. wide, obtuse to acute at both ends; petioles 1-2 (4) mm. long; flowers solitary, axillary; pedicels filiform, sparsely puberulent, 2-8 mm. long; hypanthium tubular-funnel-form, 3-4 mm. long, 1.5 mm. thick at base, gradually ampliate, subglabrous to puberulent, apparently reddish; sepals lanceolate, acuminate, apiculate, somewhat spreading in anthesis, 2-2.5 mm. long, the tips connivent in the bud; petals oblong, obtuse, entire, 1.5-2 mm. long, apparently white; stamens very small, almost included; style glabrous, scarcely as long as petals, stigma deeply 4-lobed; berry sub-globose, subglabrous, 3-4.5 mm. thick.

KEY TO VARIETIES OF *Fuchsia minutiflora*

- A. Hypanthium and sepals white; hypanthium pubescent.....92a. var. *hidalgensis*.  
 AA. Hypanthium red, subglabrous.....92b. var. *typica*.

(92a) *Fuchsia minutiflora* Hemsley, var. *hidalgensis* Munz, new variety

(Plate 15, fig. 83)

Hypanthium pubescente, album; sepalis albis.

*Type*: from **Trinidad, Hidalgo, Mexico**, at 1850 m., April 30, 1904 *Pringle 8808*, Pomona College Herbarium 59867; isotypes (F, GH, CAS, MICH, NY, US), the label on the Michigan specimen reads "Honey Station, Puebla." Material seen, Trinidad, *Pringle 8807* (F, GH, CAS, NY, US); Zacualtipán, *Scler 150* (GH, US).

(92b) *Fuchsia minutiflora* Hemsley, var. *typica* Munz, new name

*Fuchsia minutiflora* HEMSL., *Diag. Pl. Nov.*, 1:15, 1878.

Hypanthium red, subglabrous.

*Type locality*, "in monte Orizaba, alt. 5000 ped.," based on Linden 631. Material seen, MEXICO: without locality, *Mueller 1339* (NY); garden of Mrs. Nuttall, Mexico City, *Safford 1511* (US); Vera Cruz, Chinantla, *Liebmann 3231* (US); Prov. Jalapa, com. Schlechtendal in 1840, coll. *Schiede 525* (GH, NY); Aseradero de Santa Cruz, *Mueller 1550* (NY); Orizaba, *Mueller 1702* (GH, NY), *640* (NY); Maltrata, *Matuda 1358* (MICH, NY). Mexico, Ixtaccihuatl, *Purpus 160* (POM).

(93) *Fuchsia microphylla* H.B.K.

*Fuchsia microphylla* H.B.K., *Nov. Gen. et Sp.*, 6:103, pl. 534, 1823.

Subshrub or shrub, 3-20 dm. tall, rather densely branched, the ultimate branchlets slender, barely 1 mm. thick, with a dense subappressed puberulence; leaves crowded, opposite, subcoriaceous, lance-oblong, to elliptic-obovate, usually sharply serrulate, sometimes subentire, deep green above, paler beneath, acute to obtuse at both ends, subglabrous except sometimes for line of puberulence along upper surface of midrib, the blades 5-20 (25) mm. long,

3-8 (10) mm. wide; petioles glabrous to puberulent, 2-8 (15) mm. long; flowers solitary, axillary, perfect or pistillate; pedicels appressed-puberulent, 3-6 (10) mm. long; hypanthium deep red, subcylindric, constricted above the ovary, then usually 7-9 (11) mm. long, 2.5-5 (6) mm. wide in pressed specimens, sometimes shorter and narrower in pistillate flowers, glabrous to minutely strigose; sepals deep red, mostly 4, sometimes 3, lanceolate to ovate, 2.5-5 (7) mm. long, acuminate, usually apiculate, the tips up to 1 mm. long and connivent in the bud, glabrous to strigulose; petals rose, broadly elliptic to almost round, usually toothed, 3-5 (7) mm. long; stamens nearly or quite included; anthers 1.5-2 mm. long, sometimes lacking; style 8-15 (20) mm. long; stigma reddish, deeply 4-lobed; fruit subglobose, glabrous to strigulose, purple-black when ripe, up to 8 mm. thick.

Characterized by its coriaceous glabrous usually serrulate and smallish crowded leaves and rather large flowers, but variable; flowers small if pistillate only.

KEY TO VARIETIES OF *Fuchsia microphylla*

- A. Ovary and hypanthium glabrous.....93a. var. *typica*.  
 AA. Ovary and lower part of hypanthium minutely strigulose.....93b. var. *aprica*.

(93a) *Fuchsia microphylla* H.B.K. var. **typica** Munz, new name

(Plate 15, fig. 84)

*F. microphylla* H.B.K., Nov. Gen. et Sp., 6:103, pl. 534, 1823; LINDL., Bot. Reg., 15:1269, 1829; SWEET, Brit. Fl. Gard., ser. 2, pl. 16, 1829?; HEMSLEY, Bot. Biol. Centr. Amer., 1:458, 1880 in part; STANDLEY, Contr. U. S. Nat. Herb., 23:1079, 1924 in part.

*Brebissonia microphylla* SPACH, Ann. Sci. Nat., ser. II, 4:175, 1835.

*Myrinia microphylla* LILJA, Fl. Sverig. Suppl., 1:25, 1840.

*F. gracilis* SÉSSÉ and MOCIÑO ex DC., Prodr., 3:37, 1828 in synonym.

*F. mixta* HEMSLEY, Diag. Pl. Nov., 1:14, 1878; Biol. Centr. Amer. Bot., 1:459, 1880; 5:pl. 28, fig. 2, 1880. Based on Galeotti 3025 from Orizaba, which I have not seen, but which is in the range of the typical form if referred to *F. microphylla*. I agree with Standl., i.e., that such must be the case.

Ovary and hypanthium glabrous.

Type locality, Volcán de Jorullo, which I believe is in Michoacán, Mexico. Ranging from Hidalgo to states of Mexico, Michoacán and Jalisco. Material seen, MEXICO: without definite locality, *Sessé, Mociño, Castillo y Maldonado 5197* (F); *Lithrum vulnerarium*, N., *Sessé et al 1842* (F); ex horto bot. Petropolitano, introd. 1828 from Mex. (NY). Hidalgo, El Chico, *Lyonnet 2204* (US); between Real del Monte and Chico, *Hartweg 285* (NY); Lagunas Zempoala, *Lyonnet 2510* (US). Vera Cruz, Pico de Orizaba, Vacqueria de Jacal, *Liebmann 3230* (US, GH). Federal District, El Desierto, Conviento, *Russell and Souviron 133* (CAS, US); La Cima, *Barnes and Land 395* (F); San Nicolás, Valle de Mexico, *Bourgeau 974* (GH, US); Pass near Desierto de los Leones, *Munz 15062* (POM) intergrading toward *aprica*; Contreras, *Lyonnet 1637* (US). Mexico, Salazar, *Pringle 13462* (US), *Rose and Painter 7036* (US); Montes de Gavia, *Asplund 356* (NY); Nevada de Toluca, *Rose*



and Painter 7935 (NY, US); Sierra de las Cruces, Pringle 4314 (F, GH, MICH, NY, US); Ixtacihuatl, Purpus 1779 (F, GH, NY, POM, US); Méson Viejo, Temascaltepec, Hinton 1902 (US); San Rafael, Lyonnet and Elcoro 1923 (US). Morelos, Popocatepetl, Purpus 3060 (F, NY, GH, US), Rose and Hay 6256 (US). Michoacán, Mt. Patamban, Nelson 6566 (NY, US); "in monte ignivomo Jorullo, alt. 550 hex.," Humboldt et al, type coll. (scrapped at F). Jalisco, volcano of Colima, Jones 225 (POM, US).

(93b) *Fuchsia microphylla* H.B.K. var. *aprica* (Lundell), new comb.

*F. aprica* LUNDELL, Contr. Univ. Mich. Herb., 4:18-19, 1940.

Ovary and lower part of hypanthium minutely appressed-puberulent.

Type locality, Volcán de Tacaná, Chiapas, Mexico. Ranging from Oaxaca and Chiapas to Guatemala. Representative material seen, MEXICO, Puebla, Tezuitlan, Orcutt 4001 (F, MO, US). Oaxaca, Yavezca, Galeotti 3039 (US); Cerro de los Frailes, between Teotitlán del Camino and Huantla de Jiménez, Schultes and Reko 370 (F, GH). Chiapas, San Cristóbal, Goldman 985 (US); Mt. Tacaná, Matuda 2378, type coll. *aprica* (MICH, NY). GUATEMALA: Alta Vera Paz, Mts. east of Tactic, Standley 71428 (F). Huehuetenango, San Juan Ixcay, Skutch 1069 (F). Quiché, San Miguel Uspantán, Heyde and Lux under J. D. Smith 2999B (NY, US); Nebaj, Skutch 1711 (F) pistillate. San Marcos, Volcán de Tajumulco, Schmidt 1934 (F); Volcán de Tacaná, Steyermark 36159 (F). Quezaltenango, Volcán de Santa María, Steyermark 34187 (F). Chimaltenango, Volcán de Acatenango, Standley 61954 (F); Volcán de Agua, Johnston 896 (F). Guatemala, between San Martin and Todos Santos, Nelson 3627, pistillate (F, US). Sacatepéquez, Antigua, Kellerman 6535 (F); Volcán de Agua, Kellerman 7577 (NY).

This pubescent plant intergrades freely with *F. michoacanensis* which has thinner more membranaceous leaves with coarser longer hairs on their lower surface, for example: GUATEMALA: Quezaltenango, Hartweg 527 (NY); Sacatepéquez, Volcán de Agua, Shannon 3655 (US); Alta Vera Paz, Cobán, von Tuerckheim II 1295 (F, MICH, NY); Mts. east of Tactic, Standley 71357 (F). Oaxaca, Cerro de la Virgen, Conzatti 4352 (US). In these and many others, one gets varying combinations of thick leaves and pilosity.

(94) *Fuchsia Hemsleyana* Woodson and Seibert

(Plate 15, fig. 85)

*Fuchsia Hemsleyana* WOODSON and SEIBERT, Ann. Mo. Bot. Gard., 24:194, 1937.

*F. pulchella* WOODSON and SEIBERT, l.c., 195-196. Based on *Seibert 182*, which I have seen.

Shrub 1-3 m. tall, rather openly branched, the ultimate branchlets slender, ca. 1 mm. thick, minutely pubescent, sometimes strigulose; leaves mostly opposite, rather crowded, subcoriaceous, rhomboid-elliptic to-obovate, cuneate at base, acute to obtusish at apex, serrulate to sinuate-dentate, paler beneath than above, subglabrous except on upper surface of midrib and along margin, the blades 7-15 (25) mm. long, 4-8 (12) mm. wide; petioles sparsely puberu-

lent, 3–8 (12) mm. long; flowers solitary, axillary, perfect or pistillate; pedicels filiform, more or less puberulent, 4–6 (8) mm. long; hypanthium rose, tubular, constricted above ovary, then 5–7 (9) mm. long, 1–2 mm. wide at summit, glabrous to puberulent; sepals deltoid-lanceolate, rose, spreading-reflexed at anthesis, 3.5–4 mm. long, apiculate, the tips connivent in the bud; petals rose or with purplish tinge, oblong-obovate, 2.5–4 mm. long, undulate and rounded at apex; stamens usually included; anthers 1–1.2 mm. long; style 8–10 mm. long; stigma deeply 4-lobed, exerted, 1 mm. long; ovary subglabrous to strigulose; fruit subglobose, black-purple, 4–5 mm. thick.

Type locality, Río Chiriquí Viejo, near Monte Lirio, Chiriquí, Panamá. Found in the mountain of Costa Rica and Panamá. Representative material may be cited, COSTA RICA: Vara Blanca de Sarapiquí, *Skutch 3225* (NY). Alajuela, Volcán de Poás, *Standley 34629* (US), *34620* (US), *Allen 600* (F). Cartago, Cerros de Irazú, *Pittier 13048* (US); Volcán de Turrialba, *Standley 34949* (US). San José, La Guaba, *Valerio 1526* (F); Laguna de la Chonta, *Standley 42275*, strigulose (F, US); Cerro de Piedra Blanca, above Escasú, *Standley 32598* (US), *Solis 154* (F) strigulose; Finca La Cima above Los Lotes, *Standley 42758* (US); Cerro de Las Vueltas, *Standley and Valerio 43523* (F, US), *43499* (US); Laguna de la Escuadra, n.e. of El Copey, *Standley 42078* (F, US), *42057* (US); between Guayabillos and Cabeza de Vaca, *Dodge and Thomas 4940* (F). PANAMA: Chiriquí, upper Río Chiriquí Viejo, *Seibert 162*, type no. *Hemsleyana* (MO, NY); near Monte Lirio, *Seibert 182*, type *pulchella* (MO); Río Chiriquí Viejo valley, *White 2* (GH, POM); trail Paso Ancho to Monte Lirio, *Allen 1497* (MO, NY, POM); Volcán de Chiriquí, *Terry 1331* (F, MO), *Davidson 876* (F, MO); Casita Alta, *Woodson, Allen and Seibert 873* (MO, POM); Bajo Chorro, Boquete District, *Davidson 319* (F, MO.); Cuesta de Cerro Quemado, *Pittier 3114* (US, GH).

This species is near *F. microphylla* in its coriaceous, smallish, usually toothed leaves, but has smaller flowers and a more southern range. It often is much like *F. michoacanensis*, but the leaves are thicker, smaller, not pilose; however, it intergrades with it (see under *michoacanensis*). Plants that I refer to *Hemsleyana* have largely been determined as *F. parviflora* (*F. Encliandra* of this paper), but that species belongs in the thinner or membranaceous-leaved group.

(95) ***Fuchsia striolata* Lundell**

(Plate 15, fig. 86)

*Fuchsia striolata* LUNDELL, Contr. Univ. Mich. Herb., 4:20, 1940.

Shrub, openly branched, more or less scandent, the ultimate branchlets somewhat strigulose; leaves opposite, subcoriaceous, ovate to lance-ovate, the blades 1.5–9.0 cm. long, 1–5 cm. wide, cuneate at base, acuminate to acutish at apex, minutely strigulose above, subglabrous and paler beneath, subtire to remotely denticulate in upper half, ciliolate, with 6–7 pairs of lateral veins; petioles strigulose, 1–2.5 cm. long; flowers solitary, red; pedicels strigulose,

6–12 mm. long; hypanthium tubular, strigulose, 3–4 mm. long, barely 1 mm. wide; sepals red, deltoid, ca. 2 mm. long, apiculate; petals red, 1 mm. long, rounded; anthers included, 0.6 mm. long; style 4–5 mm. long; stigma exerted, 4-lobed, less than 1 mm. long; fruit subglobose, ca. 7 mm. thick, strigulose.

Type locality, Volcán de Tacaná, Chiapas, Mexico, the type number being *Matuda 2765* (F, MICH, NY) entirely without flowers, although the sheet at New York has one young bud. On the whole, though, *Matuda 2765* seems to match *Matuda 4004*, from Mt. Ovando, Chiapas (MICH, NY) which does have flowers. From GUATEMALA: San Marcos, Volcán Tacaná, Quebrada Canjulá, between Sibinal and Canjulá, *Steyermark 3608* (F) also without flowers, seems to be this species. It is characterized by the large thickish leaves which are quite glabrous beneath and with short pedicels and small flowers. A collection from Jalisco, San Sebastian, Cañon El Ranchito, *Mexia 1465* (F, MICH, NY, US) has certain characters of *F. striolata* (leaf-shape, size, pubescence; pedicel-length; flower-size, shape, color; fruit-size), but the leaves are very much thinner than in the Chiapas specimens.

(96) ***Fuchsia michoacanensis*** Sessé and Mociño

(Plate 15, fig. 87)

*Fuchsia michoacanensis* SESSÉ and MOCIÑO, Pl. N. Hispan., ed. 1, 57, 1887–90.

*Fuchsia biflora* SESSÉ and MOCIÑO, Fl. Mex., ed. 2, 93, 1894 given as same as *F. michoacanensis*. Based on specimen no. 5209, which I have seen.

*F. chiapensis* T. S. BRANDG., Univ. Calif. Pub. Bot., 6:59, 1914; STANDLEY, Contr. U. S. Nat. Herb., 23:1079, 1924. Based on *Purpus 6707*, which I have seen.

*F. heterotricha* LUNDELL, Contr. Mich. Herb., 4:19, 1940. Based on *Matuda 2457*, which I have seen. It may have somewhat finer pubescence than usual.

Shrub 1–3 m. tall, with slender branches, the ultimate ones about 1 mm. thick, adpressed-puberulent to densely spreading-pubescent or pilose, usually with both kinds of hairs at least on the petioles and veins of lower leaf-surfaces; leaves opposite, the blades orbicular-ovate or elliptic-ovate, membranaceous, subentire, to denticulate, bicolored, rounded to cuneate at base, rounded to acute at apex, subglabrous to puberulent or sparingly strigose above, sparsely to densely pilose beneath, 7–25 (40) mm. long, 5–20 (25) mm. wide; petioles 3–25 mm. long, usually pilose and strigulose; flowers axillary, perfect or pistillate; pedicels pilose to puberulent, filiform, 5–15 (25) mm. long; hypanthium red, cylindrical in pistillate flowers to tubular-funnelform in perfect ones, often more or less pilose, pubescent, 4–6 (10) mm. long, 1–3 mm. wide at apex in pressed specimens, constricted below the rounded base; sepals red, usually pilose, sometimes only puberulent, more or less spreading, deltoid, acuminate, 2–3 mm. long, the apiculate tips connivent in bud; petals coral red, round-ovate to -elliptic, erect, 0.6–2 mm. long; stamens subsessile, almost or quite included; style 6–8 (12) mm. long, the stigma somewhat exerted, deeply 4-lobed, more or less red; berry subglobose, black-purple, 4–7 mm. thick.

Type locality, not given, probably southern Mexico. Ranging from southern Mexico to Costa Rica. Representative material, MEXICO: without definite locality, "*Fuchsia biflora* N. t. 2. f. 159," Sessé, Mociño, Castillo and Maldonado 5209 (fragment at F). Mexico, district of Temascaltepec, Pantoja, Hinton 2846 (NY). Michoacán, Tarascón, Pringle 11989 (F, GH, US). Chiapas, Cerro del Boquerón, Purpus 6707, type no. *chiapensis* (F, GH, NY, US), 7168 (F, NY, US); Volcán de Tacaná, Matuda 2457, type *heterotricha* (MICH). Jalisco, Real Alto, trail to El Tajo de Santiago, Mexia 1744 (F, CAS, MICH, NY, US). Morelos, El Parque, Rose and Rose 11118 (NY, US) very smooth. GUATEMALA: San Marcos, Quebrada Conjulá, Volcán Tacaná, Steyermark 36047 (F); Río Vega, Volcán Tacaná, Steyermark 36233 (F); El Boquerón, Standley 66305 (F, POM). Quiché, so. of Chichicastenango, Standley 62408 (F). Chimaltenango, Chichivac, Skutch 43 (US), 710 (F); Cerro de Tecpám, Standley 58716 (F). Guatemala, Finca La Aurora, Aguilar 80 (F); Volcán de Pacaya, above Las Calderas, Standley 58400 (F, POM). Quezaltenango, Volcán Santa María, Steyermark 33915 (F); above Santa María de Jesús, Standley 67264 (F), 67188 (F); Volcán Zunil, Steyermark 34929 (F). Jalapa, Volcán Jumay, Steyermark 32353 (F). Amatitlán, between San Vicente Pacaya and El Cedro, Tonduz 428 (US). Sacatepéquez, Volcán de Fuego, J. D. Smith 1460 (GH, US); Volcán de Agua, so. of Santa María de Jesús, Standley 59494 (F, POM); Finca Carmona, s.e. of Antigua, Standley 63805 (F, POM). Sacapa, Sierra de las Minas, Steyermark 29741 (F). EL SALVADOR: San Vicente, Volcán de San Vicente, Standley 21549 (NY, GH, US). COSTA RICA: San José, Las Nubes, Standley 38705 (US).

Material which I refer to this species has largely passed as *F. minutiflora* which is a smaller-leaved and smaller-flowered plant of more northern range. *F. michoacanensis* intergrades freely with *F. microphylla* var. *aprica* especially in Guatemala, where much of the material is intermediate. In Costa Rica, it intergrades likewise with *F. Hemsleyana*, but in general, *F. michoacanensis* has thin leaves while the other two have more coriaceous ones. Examples of intergradation with *microphylla* are, Chiapas, Ghiesbreght 697 (F); Barranca Eminencia, San Marcos, Guatemala, Standley 68586 (F); Cerro Quemado, Quezaltenango, Kellerman 5939 (US); San Juan de Dios, Sonsonate, El Salvador, Pittier 1995 (US); Volcán de San Salvador, Standley 22810 (NY, GH, US). In these there is a tendency toward the pubescence of *michoacanensis* and toward the small thickish leaves of *microphylla*. With the pubescence of *F. michoacanensis*, but the leaf-thickness of *F. Hemsleyana* may be cited, COSTA RICA: Cartago, Torres Rojas 48 (US); Volcán de Turrialba, Pittier 13191 (GH, NY, US); Irazú, Kuntze 2343 (NY).

(97) **Fuchsia Encliandra** Steudel

(Plate 15, fig. 88)

*Fuchsia Encliandra* STEUD., Nomen. Bot., 1:649, 1840 (published as *Eucliandra*).  
*Encliandra parviflora* ZUCC., Abh. Akad. Wiss. Muench., 2:335, 1831-1836.



*Fuchsia parviflora* ZUCC., l.c., 337; HEMSLEY, Biol. Centr. Amer., Bot., 1:460, 1880; STANDLEY, Contr., U. S. Nat. Herb., 23:1080, 1924. Not *F. parviflora* LINDL., Bot. Reg., 13: 1048, 1827 (see *F. thymifolia*).

*Kierschlegeria Lindleyi* SPACH, Ann. Sci. Nat., (2), 4:176, 1835.

Shrub 1–4 m. tall, densely branched, with ultimate branchlets very slender, puberulent, somewhat strigulose and dark colored under the whitish puberulence; leaves mostly opposite, membranaceous, lance-ovate to round-elliptic, entire to inconspicuously serrulate, minutely strigulose to almost glabrous, bicolored, obtusish to acute at both ends, blades 8–15 (20) mm. long, 4–10 (15) mm. wide; petioles puberulent, 4–8 (12) mm. long; flowers solitary, axillary, dioecious or polygamous; pedicels filiform, puberulent, 5–15 mm. long; hypanthium cylindrical, strigulose, red, not constricted at base in staminate flowers, 6–8 (10) mm. long, 2–3 mm. wide. in pistillate flowers constricted above ovary, then 5–7 mm. long, 1–2 mm. wide; sepals deltoid-ovate, ascending in anthesis, puberulent, reddish, 2.5–3.5 mm. long, apiculate, the short tips connivent in the bud; petals suborbicular, 2–3 mm. long, reddish, more or less undulate; stamens included, anthers ca. 1.5 mm. long; style 7–9 mm. long; stigma exerted, deeply 4-lobed; berry dark, 7–8 mm. thick.

Type locality, Mexico. Ranging from Hidalgo to Oaxaca, and characterized by its small entire, thin leaves and cylindrical flowers. As here understood this species is not nearly so inclusive as determinations on herbarium material would indicate as to previous treatment. Material seen, MEXICO, Hidalgo, Zimapán, *Coulter 175* (NY, GH), possible mistake on label. Mexico, base of Ixtaccihuatl, *Arsène 5539* (MO, US). Morelos, Valle del Tepeite, *Lyonnet 1358b* (US); Huitzilac, *Lyonnet 1994* (US); Valle de Cuernavaca, *Lyonnet 735* (NY, US); kilometer 61, road, Mexico City to Cuernavaca, *Mexia 2718* (F, MICH, GH, CAS, NY, POM, US); El Parque, *Orcutt 4406* (F, GH). Oaxaca, Sierra de San Felipe, *Pringle 7485* (US), *Nelson 1179* (US); San Felipe, *Rose and Hough 4605* (US); Oaxaca, *Conzatti and Gonzales 20* (MO, US); Reyes, *Nelson 1803* (GH, US); Yotado, *Galeotti 3068 H* (fragment at F).

(98) ***Fuchsia cylindracea*** Lindley

(Plate 15, fig. 89)

*Fuchsia cylindracea* LINDL., Bot. Reg., 24:66, 1838.

Shrub, rather openly branched, up to 5 m. high, the ultimate branchlets purplish, subglabrous to sparingly pubescent, the youngest tips more densely but rather coarsely pubescent, rather slender; leaves membranaceous, opposite, obovate to elliptic, subentire, cuneate at base, obtuse to acutish at apex, strongly bicolored, subglabrous to somewhat strigose above, more or less pilose beneath, the blades 2–5 (6.5) cm. long, 1–2 (2.5) cm. wide; petioles somewhat pilose or pubescent, 3–10 (12) mm. long; plants apparently dioecious; flowers solitary axillary, dioecious; pedicels filiform, pubescent, 10–25 mm. long; staminate flowers with narrow basal portion, then widened into hypanthium 8–10 mm. wide, cylindrical, deep red, somewhat pubescent; sepals ovate-deltoid, 3–3.5 mm. long, red, somewhat ascending in anthesis, short-apiculate,

the tips connivent in the bud; petals red, suborbicular, more or less apiculate and notched, 3–4 mm. long; stamens included, anthers 1.2–1.4 mm. long; style about 1 mm. long; stigma 4-lobed, about 0.5 mm. long; pistillate flowers constricted above the ovary, then expanded into a cylindric hypanthium 4–5 mm. long and 2–3 mm. wide; sepals and petals as above, but somewhat smaller; stamens present, the anthers about 0.5 mm. long, not functional?; stigma exerted, 4-lobed, ca. 1 mm. long; fruit subglobose, dark, 6–8 mm. thick.

Type locality, not known; seed of original plants from Mexico. I have seen none of Lindley's herbarium material, but his plate fits well the specimens I refer to this species, with large leaves, long flowers (cylindrical,  $\frac{1}{2}$  inch long acc. to Lindley), pubescence, etc. The species is near *F. Encliandra* (*parviflora*) but has larger leaves and coarser hair; there is some intergradation, as *Ghiesbreght 696* (MO) from Chiapas with leaves of *cylindracea* and flowers of *Encliandra*; "*F. pubescens*," *Sessé and Mociño 5215* (F). Representative of *cylindracea* may be cited, MEXICO, without locality, *Coulter 174* (GH, NY). Mexico, District of Temascaltepec, Timbres, *Hinton 3055* (US); Cajones, *Hinton 4044* (US). Michoacán, Campanario near Morelia, *Arsène 5665* (NY, US), *6523* (US), *Arsène in 1910* (F); Pátzcuaro, *Pringle 4266* (F, GH, MICH, NY, US), *3583* (F). Oaxaca, 18 miles s.w. of Oaxaca City, *Nelson 1391* (US).

(99) ***Fuchsia tetradactyla*** Lindley

(Plate 15, fig. 90)

*Fuchsia tetradactyla* LINDL., Journ. Hort. Soc., 1:304, 1846.

*F. Scleriana* LOESENER, Verh. Bot. Ver. Brandenb., 55:179, 1913; STANDLEY and STEYER-MARK, Field Mus. Nat. Hist., Bot., 22:363, 1940.

Shrub 6–15 (24) dm. tall, openly branched, the ultimate branchlets reddish, 1–2 mm. thick, puberulent, more or less strigulose; leaves opposite or nearly so, broadly ovate, somewhat rhomboid, membranaceous, not crowded, subentire or remotely denticulate, soft pubescent on both surfaces, bicolored, rounded to broad-cuneate at base, abruptly acute to obtuse at apex, the blades 2–6 (10) cm. long, 1.5–5 cm. wide, with about 6 pairs of lateral veins; petioles slender, 1.5–3 (4) cm. long; flowers solitary, axillary, the plants dioecious; pedicels filiform, strigulose to pubescent, 1–1.8 cm. long; staminate flowers with hypanthium subcylindric, 7–10 mm. long, 2.5–3.5 mm. wide, puberulent, rose-orchid to deep red; sepals red to orchid, puberulent, 2.5–3 (4) mm. long, ascending, deltoid, apiculate, the tips about 0.5 mm. long, somewhat separate in bud; petals rose-scarlet or paler, suborbicular, ca. 3 mm. long; stamens included, anthers 2 mm. long; stigma included; pistillate flowers smaller, constricted above ovary; hypanthium 5–6 mm. long, 1–2 mm. wide; anthers less than 1 mm. long; style 8–9 mm. long, stigma exerted, 4-lobed, 1 mm. long; fruit purplish or black, up to 1 cm. thick.

Type locality "Guatemala," type collected by G. W. Skinner, April 4, 1846. I have not seen the type, but am taking the name *tetradactyla* for the plant recently called *Scleriana*. The large leaves (2.7 inches long, including peti-

oles), the calyx ( $\frac{1}{2}$  inch long, that is hypanthium plus sepals), pedicels equaling petioles, and origin Guatemala, all these points mentioned in the original description can indicate only this species. Material seen, MEXICO, without definite locality, "*Fuchsia tomentosa* N.," Sessé, Mociño, et al. 5207 (F). Oaxaca, between Suchistepec and Miahuatlán, Nelson 2515 (US); between Plunia and San Miguel Suchistepec, Nelson 2505 (US). Chiapas, Teopisca, Goldman 970 (US). GUATEMALA: Baja Vera Paz, Santa Rosa, von Tuerckheim under J. D. Smith 1315 (US). Quezaltenango, Volcán Zunil, Steyermark 34741 (F); near Quezaltenango, Selser 2894, type of *Seleriana* (photos F, POM, specimen CAS); Quezaltenango, Skutch 810 (F, NY); Volcán de Santa María, Steyermark 34031 (F, POM). Chimaltenango, Tecpám, Johnston 761a (F), Skutch 489 (F, GH, MICH, US). Sacatepéquez, Santa Lucia, Popenoe 689 (US); Volcán de Acatenango, Shannon under J. D. Smith 3656 (US); Finca El Hato, ne. of Antigua, Standley 61202 (F); Santiago, Gomez under J. D. Smith 872 (US). Guatemala, Carmela, Morales 1100 (F). Jalapa, Cerro Alcoba, Steyermark 32512 (F, POM). Zacapa, Sierra de las Minas, Steyermark 29704 (F).

(100) **Fuchsia Mexiae** Munz., new species

(Plate 15, fig. 91)

Leafy shrub apparently rather large, ultimate twigs very slender, somewhat reddish, somewhat fine-pubescent; leaves opposite, petioles slender, pubescent, 7–20 (25) mm. long; leaf-blades membranaceous, rhomboid-ovate to -obovate, bicolored, acute to acuminate at both ends, remotely sinuate-serrulate, subglabrous to minutely puberulent on both surfaces, especially on the veins and margins, 1.5–4 (4.5) cm. long, 1–2 cm. wide; flowers reddish, axillary, dioecious; pedicels filiform, strigulose, about 1 cm. long; hypanthium of pistillate flowers tubular, strigulose, 3–4.5 mm. long, barely 1 mm. wide; sepals ovate, 1.5–2 mm. long; petals white, rounded, ca. 1 mm. long; style 5–6 mm. long; stigma deeply 4-lobed, well exerted, ca. 1 mm. long; staminate flowers not seen, but undoubtedly larger; fruit dark, 5–7 mm. thick.

Frutex foliosus; ramulis tenuibus, rubescentibus, puberulentis; foliis oppositis; petioli tenuibus, pubescentibus, 7–20 (25) mm. longis; laminis membranaceis, rhomboideo-ovatis vel -obovatis, acutis vel acuminatis in extremis utrisque, remote sinuato-serrulatis, subglabris vel puberulentis in superficiebus utrisque, 1.5–4 cm. longis, 1–2 cm. latis; floribus rubescentibus, in axillis solitariis; pedicelis filiformibus, strigulosis, 1 cm. longis; hypanthio florum pistillatorum tubuloso, striguloso, 3–4.5 mm. longo, 1 mm. lato; sepalis ovatis, 1.5–2 mm. longis; petalis albis, orbiculatis, 1 mm. longis; stylo 5–6 mm. longo; stigmatate 4-lobato, exserto, 1 mm. longo; floribus staminatis inconnatis; fructu nigro, 5–7 mm. crassi.

*Type*: from open dry pine forest, at 1500 m., Cañon El Ranchito, San Sebastian, Jalisco, Mexico, Jan. 12, 1927, Ynez Mexia 1465, U. S. Herbarium no. 1319484; isotypes F, GH, CAS, MICH, NY. Another collection is from Morelos, El Parque, Rose and Rose 11118 (NY, US). The proposed species is much like *F. striolata*, but has membranaceous leaves, more rhomboid leaf-blades, white petals, and more western range.

## INDEX TO NAMES

The number given after each name refers to the species number used in this paper.

- Brebissonia* Spach, see Sect. 7, *Eucliaandra*.  
*microphylla* Spach, see 93a.  
*thymifolia* Steud., see 85.
- Dorvalla eucharis* Comm., see 3a.
- Ellobium* Lilja, see Sect. 2, *Eufuchsia*.  
*fulgens* Lilja, see 47.
- Eucliaandra* Zucc., sect. 7.  
*parviflora* Zucc., see 97.  
*thymifolia* Lilja, see 85.
- Fuchsia abrupta* Johnston, no. 43.  
*acynifolia* Scheidw. in Otto and Dietr.,  
 Allg. Gartenz., 15:226, 1847. I have  
 seen no material so labeled; no type  
 number was designated. It was said to  
 have come from Mexico and the char-  
 acters mentioned (small ovate leaves  
 dentate toward the tips; calyx cylin-  
 drical, 6 lines long; leaves with some  
 puberulence above, glabrous beneath;  
 pedicels short) suggest *F. microphylla*  
 H.B.K., no. 93.
- affinis* Cambess., see 6c.  
*alpestris* Gardn., see 6d.  
*alternans* Moc. and Sessé, see 85.  
*amoena* Hort., mentioned in DC. Prodr.,  
 3:37, 1828 a synonym of *F. arbores-*  
*cens*.
- ampliata* Benth., see 21.  
*Andrei* Johnston, no. 54.  
*apetala* Ruiz and Pavón, no. 78.  
*apiculata* Johnston, see 16.  
*aprica* Lundell, see 93b.  
*araucana* F. Phil., see 3a.  
*arborca* Sessé and Moc., see 84a.  
*arborescens* Sims, no. 84.
- Fuchsia arborescens* var. *megalantha* Donn.  
 Smith, see 84a  
 forma *parva* Munz, no. 84c.  
 forma *tenuis* Munz, no. 84b.  
 forma *typica* Munz, no. 84a.
- asperifolia* Krause, no. 59.  
*Aspiazu* Macbr., no. 33.  
*Asplundii* Macbr., no. 26.  
*atrorubra* Johnston, see 64.  
*austromontana* Johnston, no. 9.  
*ayavacensis* H.B.K., no. 21.  
*bacillaris* Lindl., no. 91.  
*biflora* Sessé and Moc., see 96.  
*boliviana* Britton, see 52.  
*boliviana* Carr., no. 46.  
 f. *puberulenta* Munz, no. 46b.  
 var. *luxurians* Johnston, no. 46c.  
 var. *typica* Munz, no. 46a.
- Brecliniae* Munz, no. 2.  
*Brittoni* Johnston, see 52.  
*Campos-Portoi* Pilger and Schulze, no. 1.  
*canescens* Benth., no. 14.  
*caracasana* Field. and Gardn., see 40.  
*cestroides* Schulze-Menz, no. 83.  
*chiapensis* Brandg., see 96.  
*chloroloba* Johnston, see 73a.  
*chonotica* Phil., see 3a.  
*coccinea* Curtis, see 3b.  
*coccinea* Soland. in Ait., no. 4.  
 var. *chronotica* Reiche, see 3a.
- Colensoi* Hook. f., no. 68.  
*colinae* Munz, no. 88.  
*confertifolia* Field. and Gardn., no. 32.  
*conica* Lindl., see 3a.  
*corallina* Hort. ex Lynch, Gard. Chron.,  
 2:604, 1883; said by Lynch to be syn-  
 onym of *F. exoniensis*.
- Fuchsia cordifolia* Benth., no. 8.  
*cordifolia*  $\beta$  Hook., see 7.  
*corollata* Benth., see 14.  
*corymbiflora* R. and P., no. 42.  
*corymbosa* Pritz., see 42.  
*Cuatrecasasi* Munz, no. 44.  
*curviflora* Benth., see 24a.  
*cuspidata* Fawcett and Rendle, see 46c.  
*cylindracea* Lindl., no. 98.  
*cyrtandroides* Moore, no. 67.  
*decidua* Standley, no. 72.  
*decussata* R. Grah., see 3b.  
*decussata* R. and P., no. 48.  
*denticulata* R. and P., no. 10.  
*dependens* Hook., see 42.  
*discolor* Lindl., see 3a.  
*dolichantha* Krause, see 32.  
*Dominiana* Hort. ex. Fl. des Serres, sér. 1,  
 95, pl. 1004, 1854-5; said to be a horti-  
 cultural hybrid.
- elegans* Paxt. ex. Steud.; see *globosa* var.  
*elegans*.  
*elegans* Salisb., see 4.  
*Eucliaandra* (spelled *Eucliaandra*) Steud.,  
 no. 97.  
*excorticata* L. f., no. 66.



- exoniensis* Paxt., Mag. Bot., 10:153, 1843;  
hybrid between *F. cordifolia* and *F. globosa*.
- filipes* Rusby, see 52.
- Fischeri* Macbr., no. 36.
- fontinalis* Macbr., see 48.
- fulgens* Moe. and Sessé, no. 47.
- furfuracea* Johnston, no. 38.
- fusca* Krause, see 48.
- Garleppiana* Kuntze and Wittm., no. 81.
- Fuchsia Gehrigeri* Munz, no. 30.
- glaberrima* Johnston, no. 61.
- Glazioviana* Taub., see 4.
- globosa* Lindl., Bot. Reg., 18:pl. 1556, 1833; apparently a plant of horticultural origin. I have seen no wild specimens like it; it apparently has arisen from *F. magellanica*.
- var. *elegans* Paxton, Mag. Bot., 4:75, 1838; apparently horticultural.
- gracilis* Lindl., see 3b.
- var. *multiflora* Lindl., see 3a. var. *tenella* Lindl., see 3a.
- gracilis* Moe and Sessé, see 93a.
- grandiflora* Ruiz ex Dahlgren, see 10.
- hamellioides* Moe. and Sessé, see 84a.
- Hartwegii* Benth., no. 57.
- Hemsleyana* Woodson and Seibert, no. 94.
- heterotricha* Lundell, see 96.
- hirsuta* Hemsl., no. 79.
- hirtella* H.B.K., no., 40.
- Hitchcockii* Johnston, see 21.
- hortensis* Bergmans, Vaste Pl. Rotsheesters, 227, 1924; horticultural.
- hybrida* Hort., no. 5.
- hypoleuca* Johnston, no. 49.
- inflata* Schulze-Menz, see 73b.
- insignis* Hemsl., see 78.
- integrifolia* Cambess., see 6a.
- intermedia* Hemsl., see 7.
- involverata* Sw. Prodr. Veg. Ind. Occ., 62, 1788, is *Schradera Cephalotes* of Rubiaceae.
- involverata* R. and P., Field Mus. Nat. Hist., Bot. 21:212, 1940; *nomen nudum*
- Jahnii* Munz, no. 29.
- juntasensis* Kuntze, no. 74.
- Killipii* Johnston, no. 45.
- Kirkii* Hook. f., no. 71.
- Lehmannii* Munz, no. 55.
- Lenneana* Warez. in Otto and Dietr., Allg. Gartenz., 20:293, 1852; *nomen nudum*.
- Fuchsia leptopoda* Krause, no. 11.
- Liebmanni* Lévl., see 84a.
- Llewelynii* Macbr., no. 27.
- longiflora* Benth., see 20a.
- Loweii* Hort. ex L. H. Bailey, Standard Cycl. Hort., 1301, 1915, where given in synonymy under *F. magellanica* var. *discolor*.
- lorensis* H.B.K., no. 16.
- lycioides* Andr., no. 65.
- macrantha* Hook., no. 82.
- macropetala* Presl., see 42.
- macrophylla* Johnston, no. 62.
- macrostema* R. and P., see 3b.
- var. *conica* Sweet, see 3a.
- var. *gracilis* Sweet, see 3b.
- var. *recurvata* Hook., see 3b.
- var. *tenella* DC., see 3a.
- macrostigma* Benth., no. 20.
- var. *longiflora* Munz, no. 20a.
- var. *typica* Munz., no. 20b.
- magdalenae* Munz, no. 13.
- magellanica* Lam., no. 3.
- var. *conica* Bailey, see 3a.
- var. *discolor* Bailey, see 3a.
- var. *globosa* Bailey, see *F. globosa*.
- var. *gracilis* Bailey, see 3b.
- var. *macrostema* Munz, no. 3b.
- var. *Molinae* Espinosa, no. 3c.
- var. *Riccartoni* Bailey, see *F. Riccartoni*.
- var. *typica* Munz, no. 3a.
- Mathewsii* Macbr., no. 35.
- Mattoana* Krause, see 74.
- membranacea* Hemsl., no. 75.
- Meziae* Munz, no. 100.
- michoacanensis* Sessé and Moc., no. 96.
- microphylla* H.B.K., no. 93.
- var. *aprica* Munz, no. 93b.
- var. *typica* Munz, no. 93a.
- Fuchsia miniata* Planch and Linden, see 40.
- minimiflora* Hemsl., no. 87.
- minutiflora* Hemsl., no. 92.
- var. *hidalgensis* Munz, no. 92a.
- var. *typica* Munz, no. 92b.
- mitifolia* (*mutifolia* in index) R. and P., in Field Mus. Pub., Bot., 21:80, 1940; *nomen nudum*.
- mixta* Hemsl., see 93a.
- mollis* Krause, see 6d.
- montana* Cambess., see 4.
- multiflora* Lodd., see 3a.

- multiflora* Murr., Syst. ed. 13, 299, 1774; *nomen nudum*.
- Munzii*, Macbr., no. 39.
- myrtifolia* Hort. ex Koehne, Deutsche Dendrol., 429, 1893; said to be near *F. discolor*.
- nigricans* Linden, see 64.
- Notarisii* Lehm., Hamb. Gartenz., 8:459, 1852; I have not seen authentic material; description suggests a member of section *Encliandra*.
- Osgoodii* Macbr., no. 53.
- ovalis* R. and P., no. 58.
- var. *aberrans* Macbr., see 53.
- ovata* Moc. and Sessé, see 85.
- pallescens* Diels, no. 17.
- paniculata* Lindl., see 84c.
- parviflora* Lindl., see 85.
- parviflora* Zucc., see 97.
- pendula* Salisb., see 4.
- pendulaeflora* Hort., Gard. Chron., 1:521, 1877; hybrid.
- perbrevis* Johnston, see 51.
- persicandens* Cockayne and Allan, no. 69.
- peruviana* Carr. in Johnston, Contr. Gray Herb., 75:39, 1925, apparently a slip for *F. boliviana*.
- Fuchsia petiolaris* H.B.K., no. 24.
- var. *bolivarensis* Munz, no. 24b.
- var. *typica* Munz, no. 24a.
- pilosa* Field. and Gardn., no. 60.
- platypetala* Johnston, no. 19.
- polyantha* Killip, no. 41.
- polyanthella* Johnston, see 58.
- Pringlei* Robinson and Seaton, no. 86.
- Pringsheimii* Urb., no. 22.
- procumbens* Cunn., no. 70.
- prostrata* Baill., see 70.
- pubescens* Cambess., see 4.
- pubescens* R. and P., in Field Mus. Nat. Hist., Bot., 21:212, 1940, *nomen nudum*.
- pulchella* Woodson and Seibert, see 94.
- pumila* Hort. ex Muenissier, Rév. Hort., n.s. 20:173, 1926; horticultural.
- pumila* Hort. ex Vilmorin, Blumeng., ed. 3, Sieb. and Voss, 1:332, 1894, in synonymy under *F. gracilis* f. *pumila* Voss.
- punica* R. and P., Field Mus. Nat. Hist., Bot., 21:212, 1940, *nomen nudum*.
- putumayensis* Munz, no. 56.
- pyrifolia* Presl, see 6b.
- quinduensis* H.B.K., see 24a.
- racemosa* Lam., Encyc. 2:565, 1788; pl. 282, fig. 1, 1793. Given with *F. triphylla* as synonym, but as coming from Cartagena, Colombia. It may be an earlier name for *F. petiolaris*, but I have not had access to a specimen since I discovered that fact.
- racemosa* Sessé and Moc., Pl. N. Hispan., ed. 1, 58, 1887-90. Description given suggests *F. fulgens*, although it was referred to *F. arborescens* by G. Don, Gen. Syst., 2:677, 1832. Leaf at Field (ex herbario Musei Parisiensis) labeled "*F. racemosa* Lam." can well be *F. fulgens* in size, veins, pubescence.
- radicans* Miers, see 6b.
- Fuchsia recurvata* Niven, see 3b.
- regia* (Vell.) Munz, no. 6.
- var. *affinis* Munz, no. 6c.
- var. *alpestris* Munz, no. 6d.
- var. *radicans* Munz, no. 6b.
- var. *typica* Munz, no. 6a.
- Riccartonensis* Bergmans, Vaste Pl. Rot-sheesters, 227, 1924; see *F. Riccartonii*.
- Riccartoni* Hort. ex Tillery, in Flor. and Pom., 217, 1871; horticultural name with inadequate description.
- Riccartoniana* Hort. ex Koehne, Deutsche Dendrol., 429, 1893; horticultural name.
- rivularis* Macbr., no. 15.
- robusta* Tengbergen, Tuinb. Fl., 2:345, 1855; hybrid.
- rosea* R. and P., see 65.
- var. *spinosa* Reiche, see 65.
- salicifolia* Hemsl., no. 76.
- sanctae-rosae* Kuntze, no. 52.
- scabriuscula* Benth., no. 50.
- scandens* Krause, see 48.
- Scherffiana* André, Rèv. Hort., 1888:233 and 268, from Ecuador; would seem nearest to *F. Townsendii* Johnston, over which it has priority, but the description sounds as if it had narrower petals. I have not seen type material.
- Seleriana* Loes., see 99.
- semperflorens* Rozain, Wien. Illustr. Gartenz., 1888:244; hybrid.
- serratifolia* R. and P., see 10.
- serratifolia* Hook., see 9.
- sessilifolia* Benth., no. 63.
- simplicicaulis* R. and P., no. 31.
- siphonantha* Krause, see 11.

- Skutchiana* Munz, no. 90.  
*Smithii* Munz, no. 25.  
*Fuchsia speciosa* Hort., see 5.  
*spectabilis* Hook., see 20a.  
   var. *pubens* Johnston, see 20b.  
*spinosa* Presl, see 65.  
*splendens* Zucc., no. 7.  
*Standishii* Paxton, Bot. Mag., 11:33, 1844;  
   garden hybrid.  
*Steinbachii* Johnston, see 74.  
*Storkii* Munz, no. 37.  
*striolata* Lundell, no. 95.  
*sylvatica* Benth., no. 64.  
*syringaeiflora* Carr., see 84a.  
*tacanensis* Lundell, no. 89.  
*tacsoniiiflora* Krause, see 10.  
*tenella* Hort., see 3a.  
*tetradactyla* Lindl., no. 99.  
*Thompsoni* Hort. ex Koehne, Deutsche  
   Dendrol., 430, 1893; *nomen nudum*. No  
   description, 3 varieties figured.  
*thymifolia* H.B.K., no. 85.  
*tincta* Johnston, no. 34.  
*Townsendii* Johnston, no. 18.  
*triphylla* L., no. 23.  
*tuberosa* Krause, no. 73.  
   var. *inflata* Munz, no. 73b.  
   var. *typica* Munz, no. 73a.  
*tunariensis* Kuntze, no. 77.  
*umbrosa* Benth., see 16.  
*unduavensis* Munz, no. 80.  
*uniflora* Sessé and Moc., Pl. N. Hispan.,  
   ed. 1, 58, 1887-'90. Unknown to me.  
*velutina* Johnston, see 42.  
*venusta* H.B.K., no. 28.  
   var. *huilensis* Munz, no. 28b.  
   var. *typica* Munz, no. 28a.  
*Fuchsia verrucosa* Hartw., no. 51.  
   *verticillata* R. and P., in Field Mus. Nat.  
   Hist., Bot., 21:46, 1940; *nomen nudum*.  
   *violacea* R. and P., in Field Mus. Nat.  
   Hist., Bot., 21:128, 1940; *nomen nudum*.  
   *virgata* Sweet, Hort. Brit., ed. 1, 485, 1827;  
   *nomen nudum*.  
   *vulcanica* André, see 14.  
   *Weberbaueri* Krause, see 52.  
   *Woytkowskii* Macbr., no. 12.  
*Kierschlegeria* Spach, section no. 3.  
   *Lindleyi* Spach, see 97.  
   *lycioides* Spach, see 65.  
*Lopezia thymifolia* Willd., see 85.  
*Lyciopsis* Spach, see *Encliandra*, sect. 7.  
   *thymifolia* Spach, see 85.  
*Myrinia* Lilja, see *Encliandra*, sect. 7.  
   *microphylla* Lilja, see 93a.  
*Nahusia* Schneev., see *Quelusia*, sect. 1.  
   *coccinea* Schneev., see 4.  
*Quelusia* Vandelli, section no. 1.  
   *regia* Vand., see 6.  
*Schufia* Spach, section no. 6.  
   *arborescens* Spach, see 84a.  
*Skinnera* Forst., section no. 4.  
   *antartica* Forst. said to be *Blackwellia*  
   *antartica* Gaertn.  
   *coccinea* Moench, see 4.  
   *excorticata* Forst., see 66.  
*Spachia* Lilja, in Traedgardtidning, 62,  
   1840; ex Linnaea, 15:262, 1841. No  
   species named; synonym of *Fuchsia*.  
*Thileum* (or *Thileum*?) Molina, see *Nahusia*,  
   sect. 1.  
   *tinctorium* Molina, see 3b.  
*Tilco* Adans., Fam. 2:498, 1763; no species  
   named; synonym of *Fuchsia*, acc. to  
   Kew Index.

## EXPLANATION OF PLATES

Measurements given for flower are from base of ovary to tip of stigma, for leaf include petiole and blade.

### PLATE 1

Fig. 1. *F. Campos-Portoi*, drawn from Brade 15676; flower 32 mm.; leaf 27 mm.

Fig. 2. *F. Braclinae*, drawn from Mexia 4013; flower 42 mm.; leaf 45 mm.

Fig. 3. *F. magellanica*, from Werdermann 61; flower 56 mm.; leaf 53 mm.

Fig. 4. *F. coccinea*, from Hoehne 6278; flower 41 mm.; leaf 41 mm.

Fig. 5. *F. regia*, from Regnell 794; flower 62 mm.; leaf 66 mm.

Fig. 6. *F. splendens*, from Standley 61808; flower 60 mm.; leaf 80 mm.

Fig. 7. *F. cordifolia*, from Skutch 867; flower 83 mm.; leaf 120 mm.

Fig. 8. *F. austromontana*, from Pennell 14110; flower 56 mm.; leaf 104 mm.



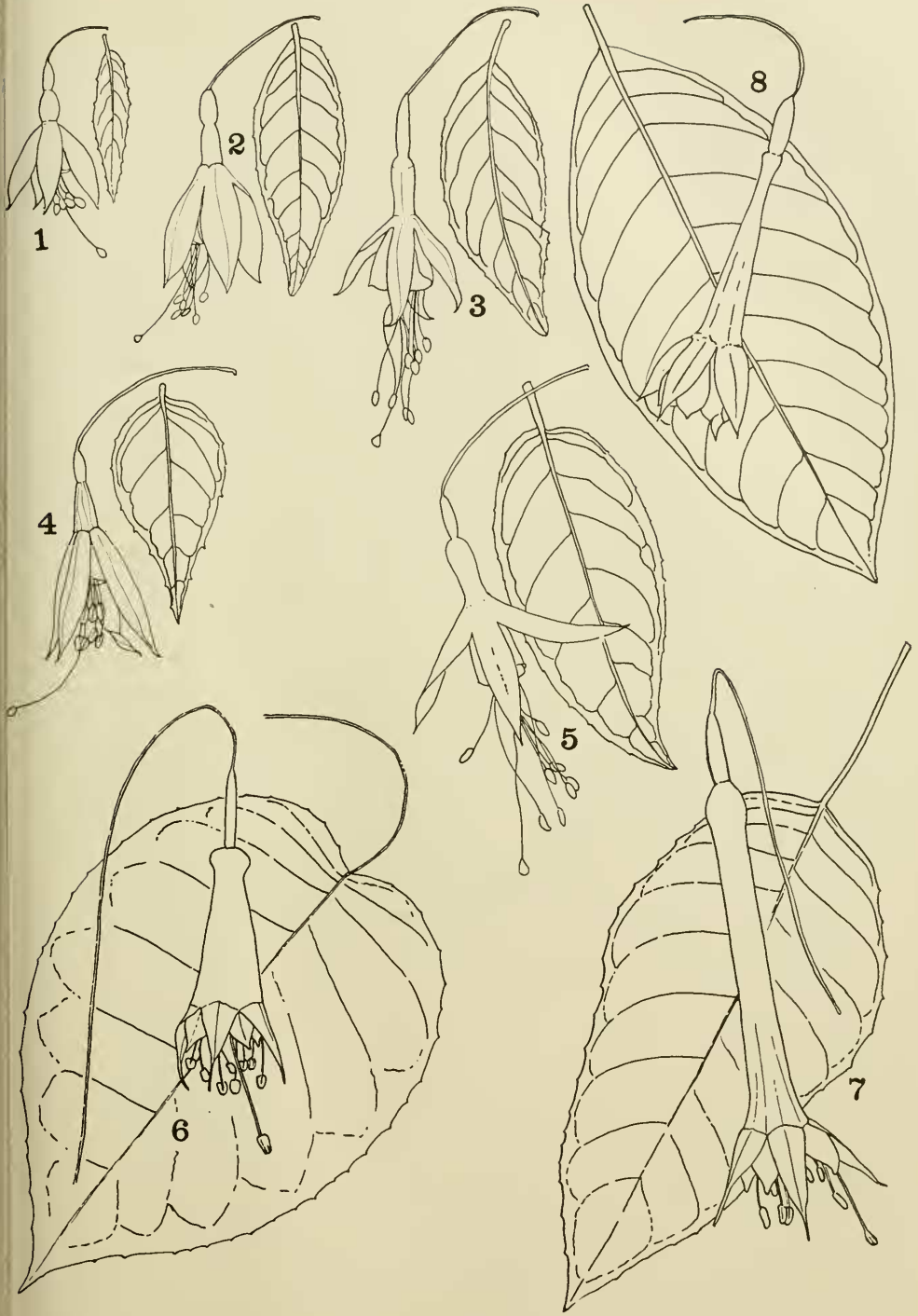


PLATE 2

- Fig. 9. *F. denticulata*, from Weberbauer 7587; flower 72 mm.; leaf 103 mm.  
Fig. 10. *F. leptopoda*, from Weberbauer 6934; flower 80 mm.; leaf 107 mm.  
Fig. 11. *F. Woytkowskii*, from Woytkowski coll.; flower 58 mm.; leaf 73 mm.  
Fig. 12. *F. magdalenae*, from Seifrizz 392; flower 95 mm.; leaf 65 mm.  
Fig. 13. *F. canescens*, from Penland 623; flower 80 mm.; leaf 55 mm.  
Fig. 14. *F. loxensis*, from Penland 959; flower 30 mm.; leaf 68 mm.

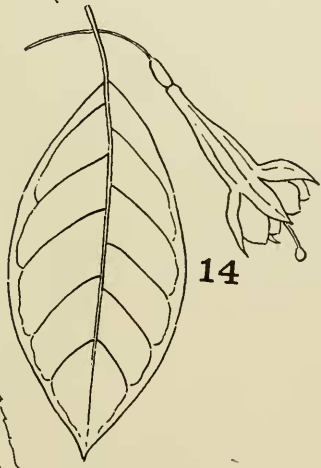
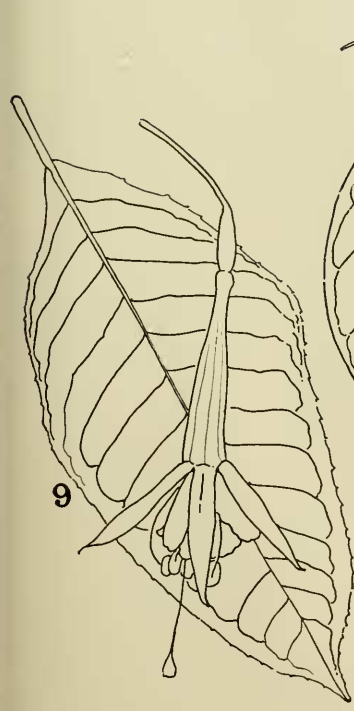
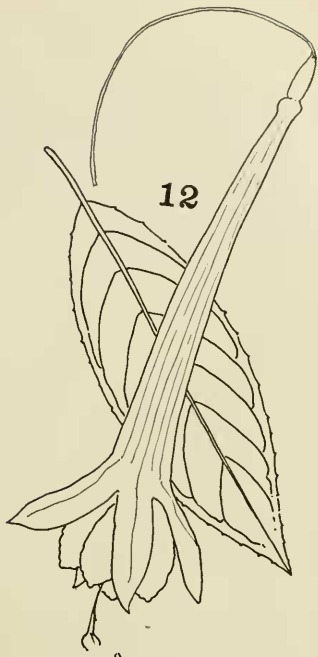
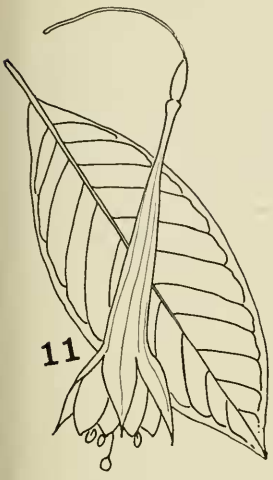


PLATE 3

Fig. 15. *F. Townsendii*, from Townsend A93; flower 75 mm.; leaf 128 mm.

Fig. 16. *F. platypetala*, from West 3705; flower 78 mm.; leaf 91 mm.

Fig. 17. *F. macrostigma*, from Rose 22479; flower 83 mm.; leaf 145 mm.

Fig. 18. *F. ayavacensis*, do not have record of specimen; flower 56 mm.; leaf 95 mm.



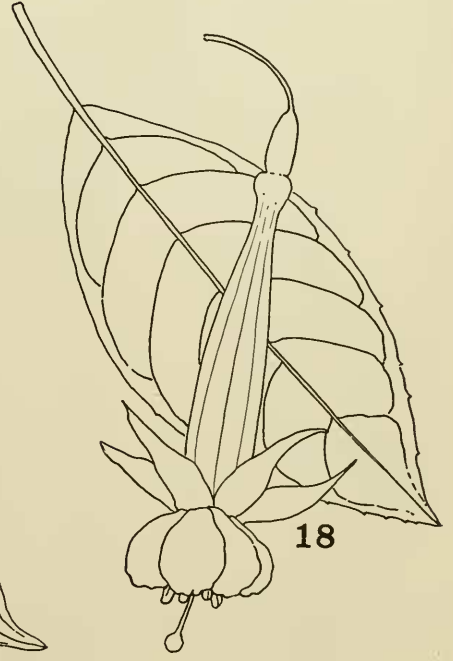
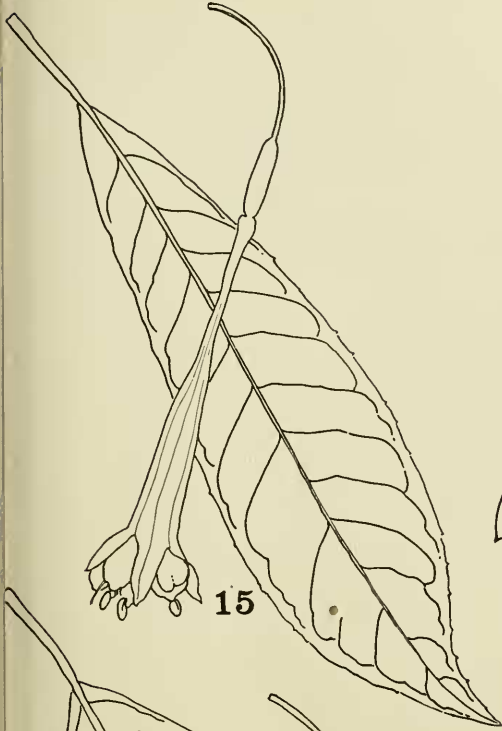


PLATE 4

Fig. 19. *F. Pringsheimii*, from von Tuerekheim 3151; flower 65 mm.; leaf 25 mm.

Fig. 20. *F. triphylla*, from Leonard 3681; flower 50 mm.; leaf 70 mm.

Fig. 21. *F. petiolaris*, from Pennell 2379; flower 69 mm.; leaf 57 mm.

Fig. 22. *F. petiolaris* var. *bolivarensis*, from Pennell 4324; flower 80 mm.; leaf 76 mm.

Fig. 23. *F. Smithii*, from Killip and Smith 17300; flower 75 mm.; leaf 57 mm.

Fig. 24. *F. Asplundii*, from Weberbauer 6054; flower 63 mm.; leaf 75 mm.

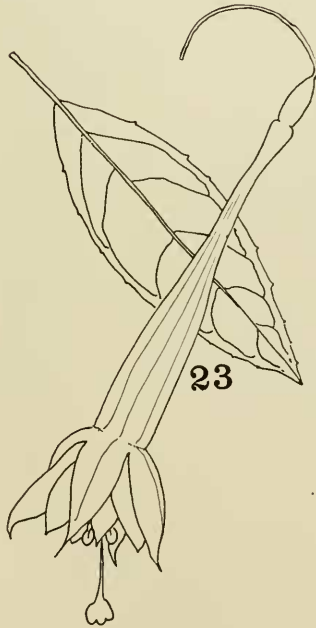
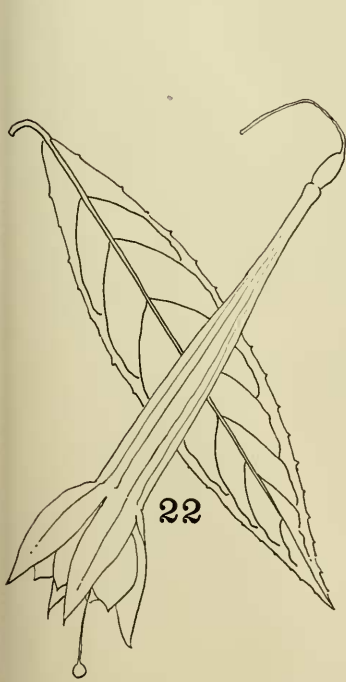
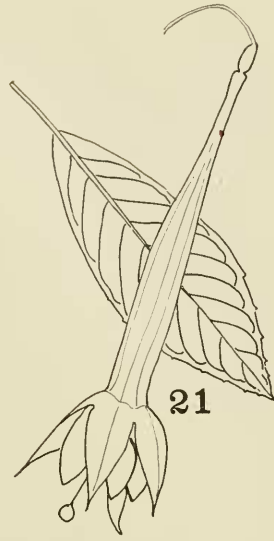
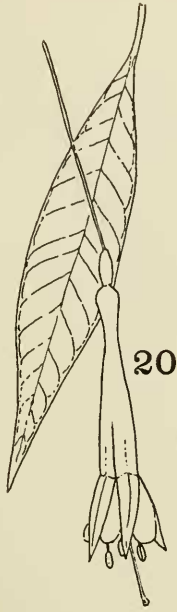
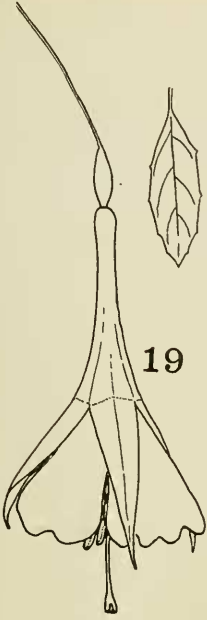


PLATE 5

Fig. 25. *F. Llewelynii*, from Llewelyn Williams 7594; flower 68 mm.; leaf 87 mm.

Fig. 26. *F. venusta*, no record of specimen from which drawn; flower 62 mm.;  
leaf 125 mm.

Fig. 27. *F. Jahnii*, from Jahn 506; flower 60 mm.; leaf 71 mm.

Fig. 28. *F. Gehrigeri*, from Gehriger 322; flower 62 mm.; leaf 80 mm.

Fig. 29. *F. simplicicaulis*, from Macbride 4014; flower 68 mm.; leaf 141 mm.



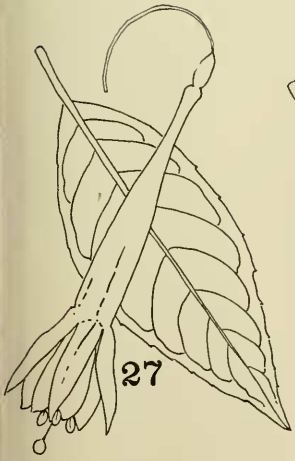
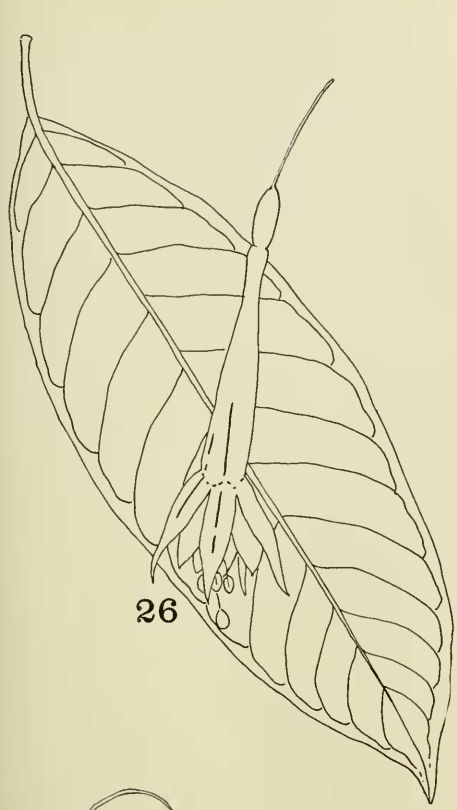


PLATE 6

Fig. 30. *F. confertifolia*, from Weberbauer 7153; flower 74 mm.; leaf 17 mm.

Fig. 31. *F. Aspiazui*, from Weberbauer 7042; flower 78 mm.; leaf 133 mm.

Fig. 32. *F. tineta*, from West 7092; flower 44 mm.; leaf 134 mm.

Fig. 33. *F. Storkii*, from Stork 10073; flower 41 mm.; leaf 75 mm.

Fig. 34. *F. furfuracea*, from Bang 674; flower 68 mm.; leaf 100 mm.

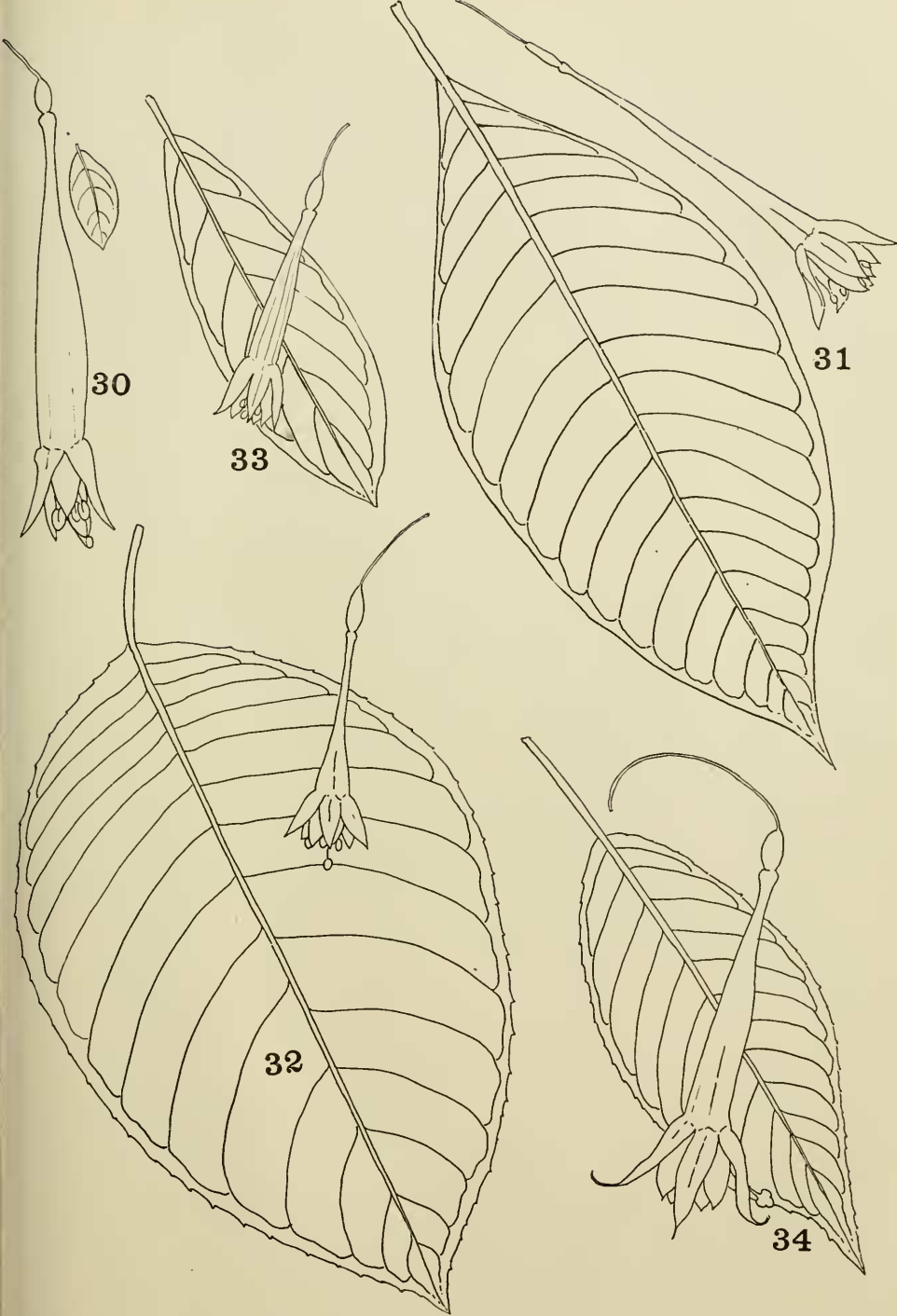


PLATE 7

Fig. 35. *F. Munzii*, from Weberbauer 6648; flower 52 mm.; leaf 115 mm.

Fig. 36. *F. hirtella*, from Cuatrecasas 6657; flower 64 mm.; leaf 125 mm.

Fig. 37. *F. polyantha*, from Mexia 7571; flower 55 mm.; leaf 69 mm.

Fig. 38. *F. corymbiflora*, from Mexia 7765; flower 68 mm.; leaf 148 mm.

Fig. 39. *F. abrupta*, from Macbride 4541; flower 58 mm.; leaf 116 mm.

Fig. 40. *F. Cuatrecasasii*, from Cuatrecasas 8738; flower 47 mm.; leaf 84 mm.



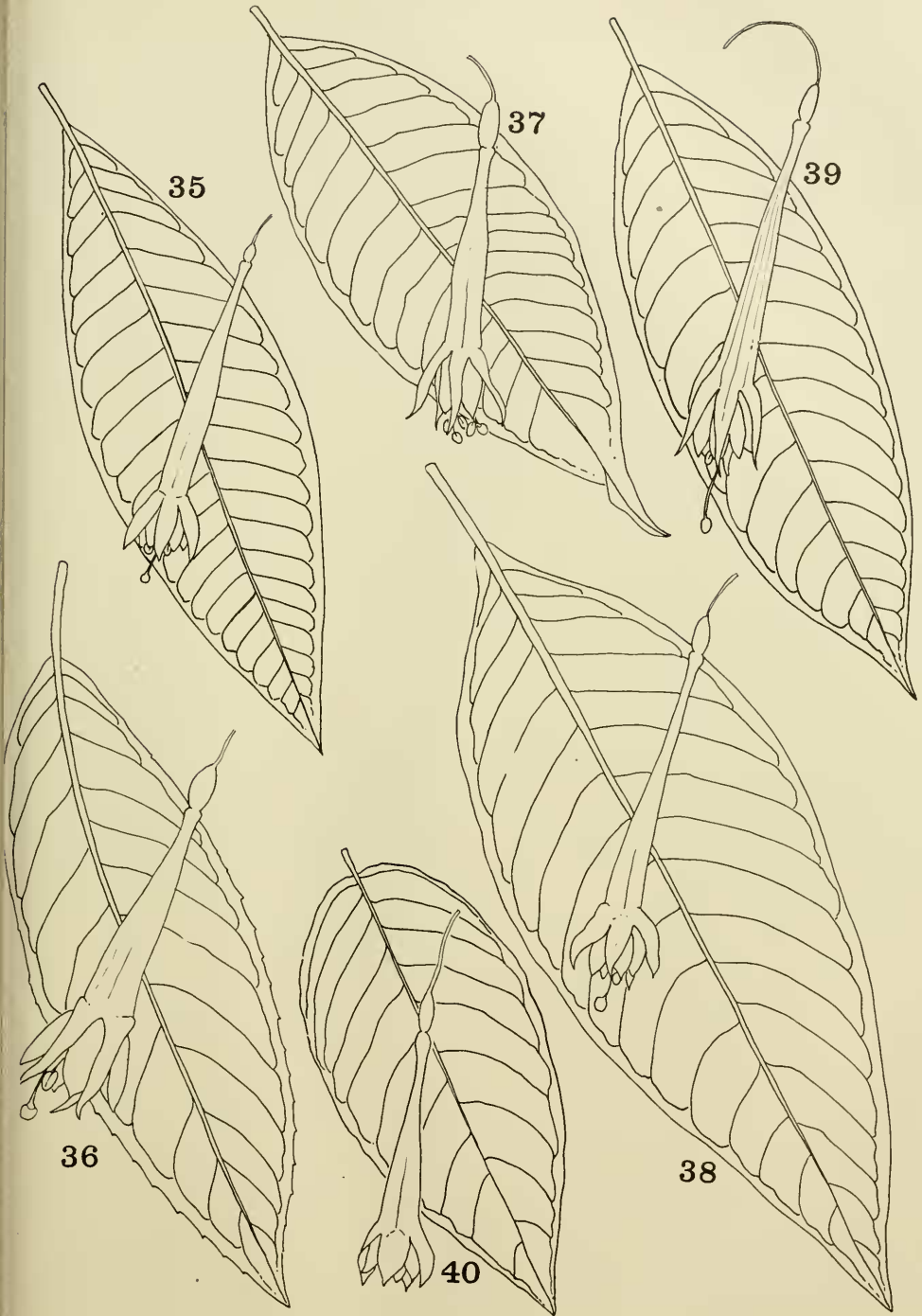


PLATE 8

- Fig. 41. *F. Killipii*, from Killip 16695; flower 62 mm.; leaf 102 mm.  
Fig. 42. *F. boliviana*, from Balls 6715; flower 84 mm.; leaf 140 mm.  
Fig. 43. *F. fulgens*, from Pringle 4123; flower 150 mm.; leaf 180 mm.  
Fig. 44. *F. decussata*, from Macbride and Featherstone 2124; flower 28 mm.;  
leaf 65 mm.  
Fig. 45. *F. hypoleuca*, from Hitchcock 21440; flower 42 mm.; leaf 70 mm.  
Fig. 46. *F. scabriuscula*, from unknown source; flower 45 mm.; leaf 106 mm.  
Fig. 47. *F. verrucosa*, from Cuatrecasas 8465; flower 24 mm.; leaf 65 mm.

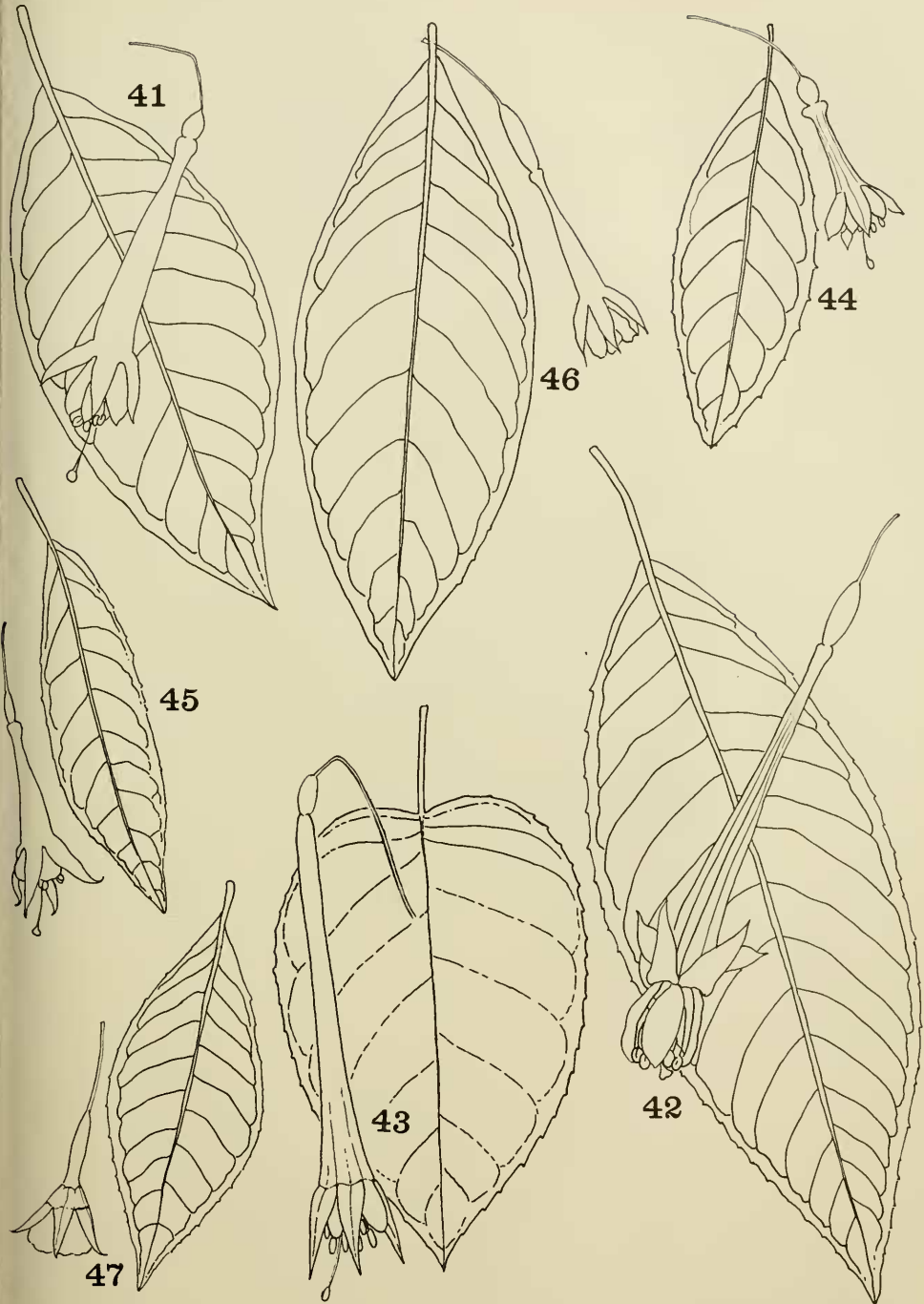


PLATE 9

Fig. 48. *F. sanctae-rosae*, from West 6414; flower 40 mm.; leaf 96 mm.

Fig. 49. *F. Osgoodii*, from Osgood and Anderson 47; flower 38 mm.; leaf 99 mm.

Fig. 50. *F. Andrei*, from André K 820; flower 45 mm.; leaf 122 mm.

Fig. 51. *F. Lehmannii*, from Lehmann 5498; flower 35 mm.; leaf 140 mm.

Fig. 52. *F. putumayensis*, from Garcia 4639; flower 28 mm.; leaf 91 mm.

Fig. 53. *F. Hartwegii*, from Killip 6829; flower 37 mm.; leaf 130 mm.

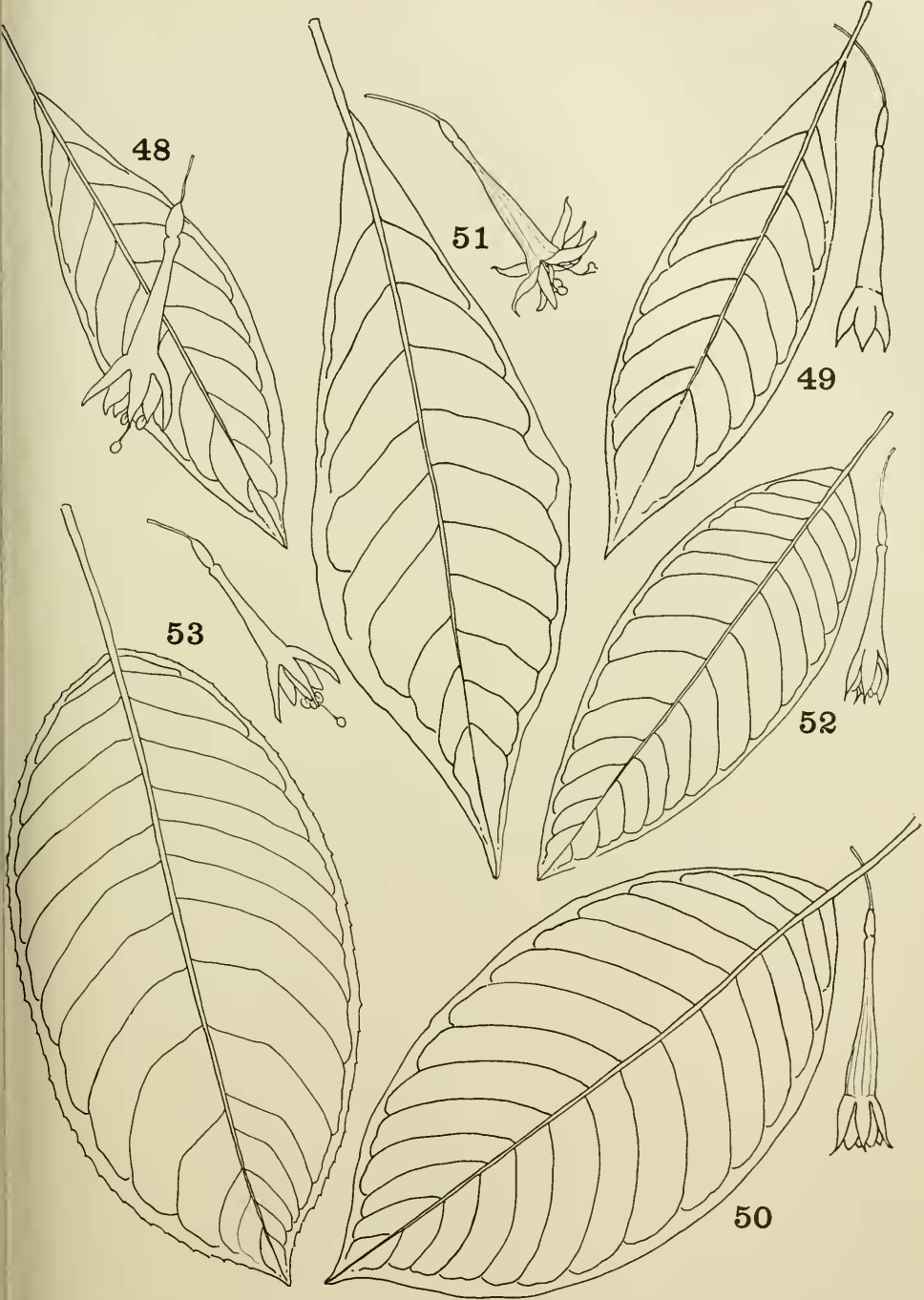




PLATE 10

Fig. 54. *F. ovalis*, from Weberbauer 6721; flower 24 mm.; leaf 189 mm.

Fig. 55. *F. glaberrima*, from Hitchcock 21750; flower 42 mm.; leaf 161 mm.

Fig. 56. *F. macrophylla*, from Macbride 5616; flower 31 mm.; leaf 225 mm.

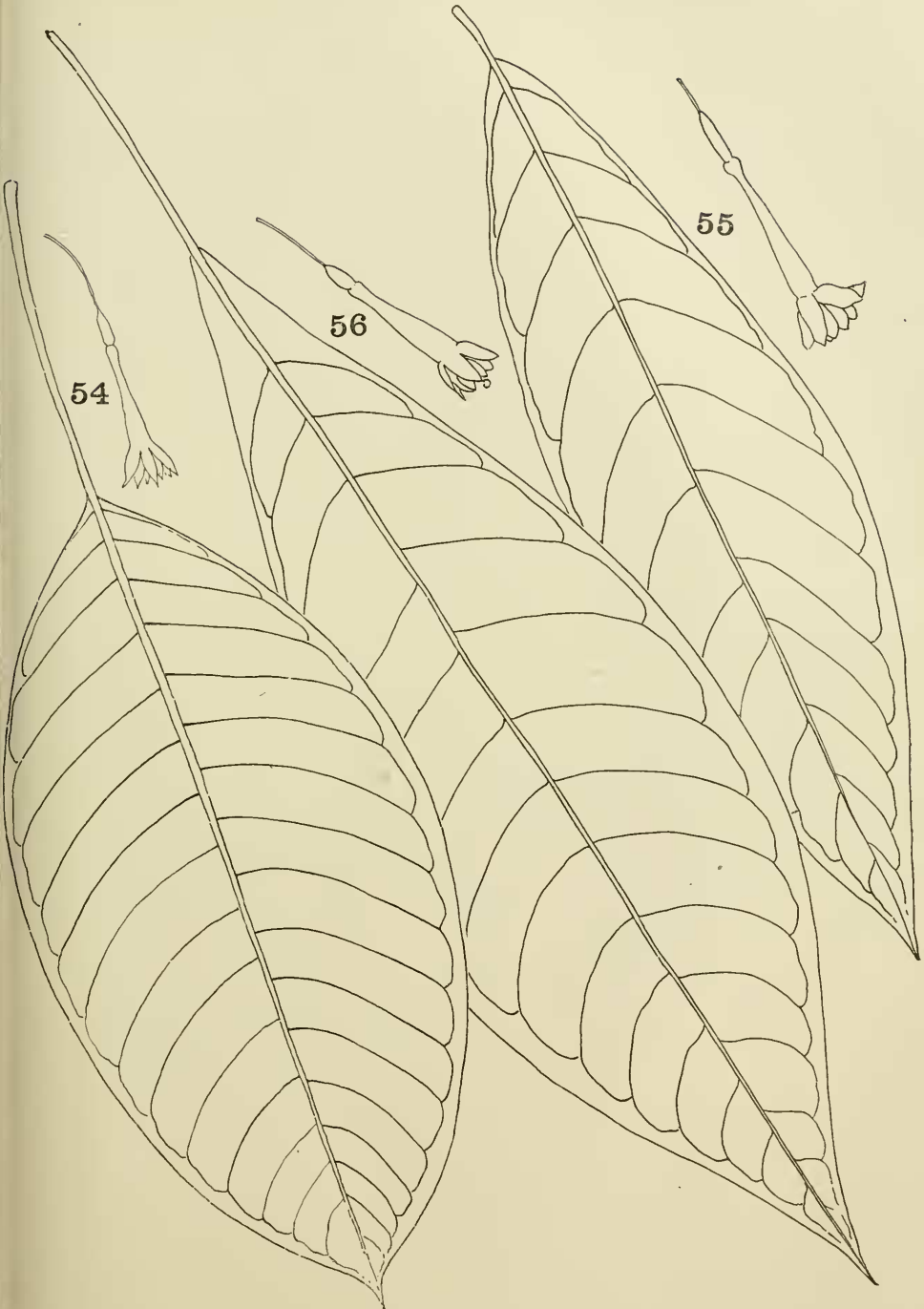


PLATE 11

Fig. 57. *F. sessilifolia*, from Mexia 7597; flower 30 mm.; leaf 138 mm.

Fig. 58. *F. sylvatica*, from Dawe 769; flower 42 mm.; leaf 131 mm.

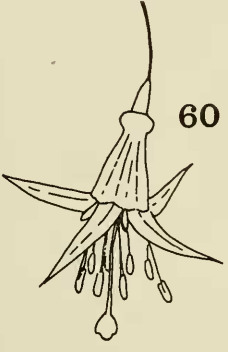
Fig. 59. *F. lycioides*, from Garaventa 1641; flower 14 mm.; leaf 26 mm.

Fig. 60. *F. excorticata*, from Petrie 4110; flower 40 mm.; leaf 95 mm.

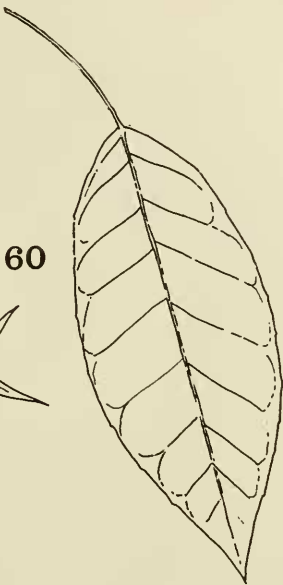
Fig. 61. *F. cyrtandroides*, from MacDaniels in 1927; flower 34 mm.; leaf 130 mm.



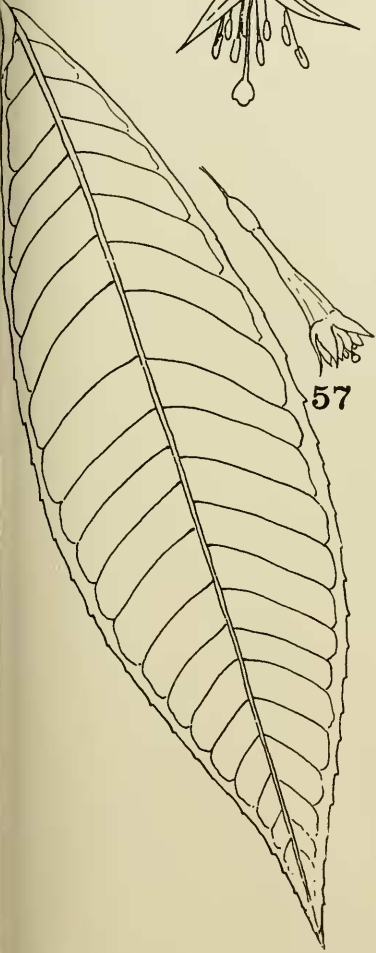
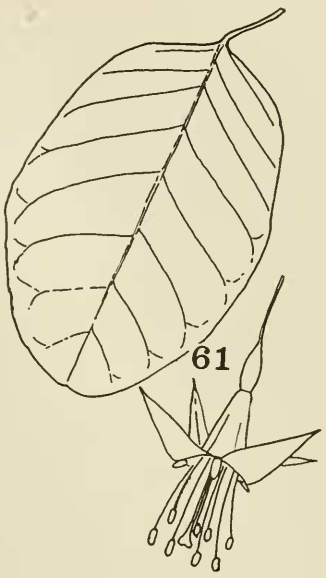
59



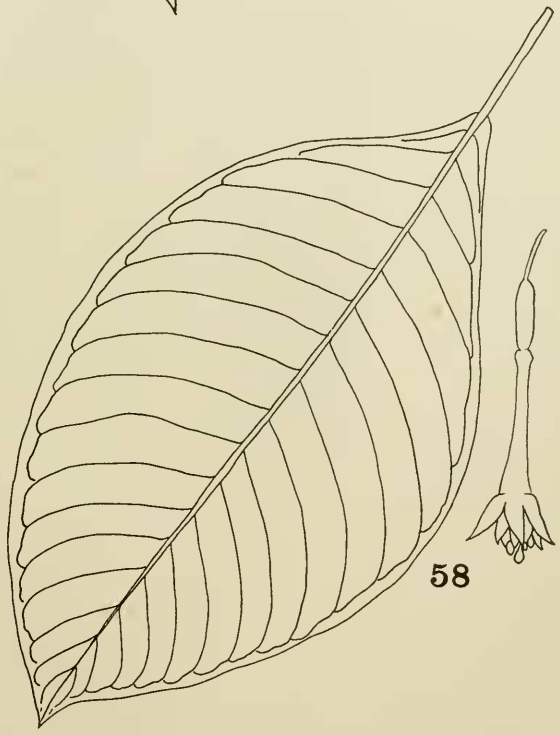
60



61



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58

PLATE 12

- Fig. 62. *F. Colensoi*, from Petrie 4109; flower 28 mm.; leaf 48 mm.  
Fig. 63. *F. perscandens*, from Allan in 1924; flower 32 mm.; leaf 38 mm.  
Fig. 64. *F. procumbens*, from Meebold 25160; flower 17 mm.; leaf 40 mm.  
Fig. 65. *F. decidua*, from Mexia 1601; flower 45 mm.  
Fig. 66. *F. tuberosa*, from Pennell 13973; flower 82 mm.; leaf 135 mm.  
Fig. 67. *F. juntasensis*, from Steinbach 5038; flower 82 mm.; leaf 91 mm.





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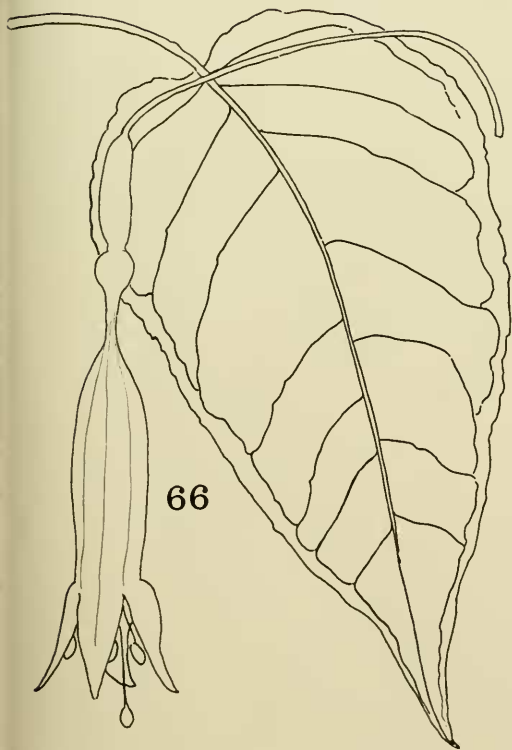
63



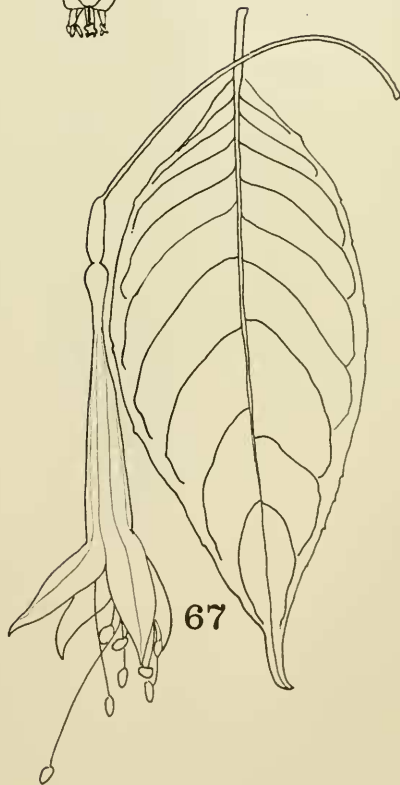
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PLATE 13

Fig. 68. *F. tunariensis*, from Cárdenas 3369; flower 91 mm.; leaf 76 mm.

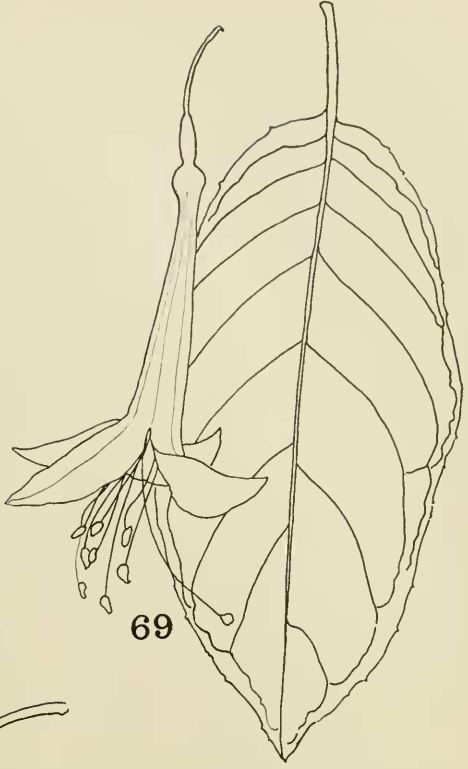
Fig. 69. *F. apetala*, from Hitchcock 21701; flower 72 mm.; leaf 108 mm. and  
from Rose 22230.

Fig. 70. *F. hirsuta*, from Weberbauer 6975; flower 67 mm.; leaf 131 mm.

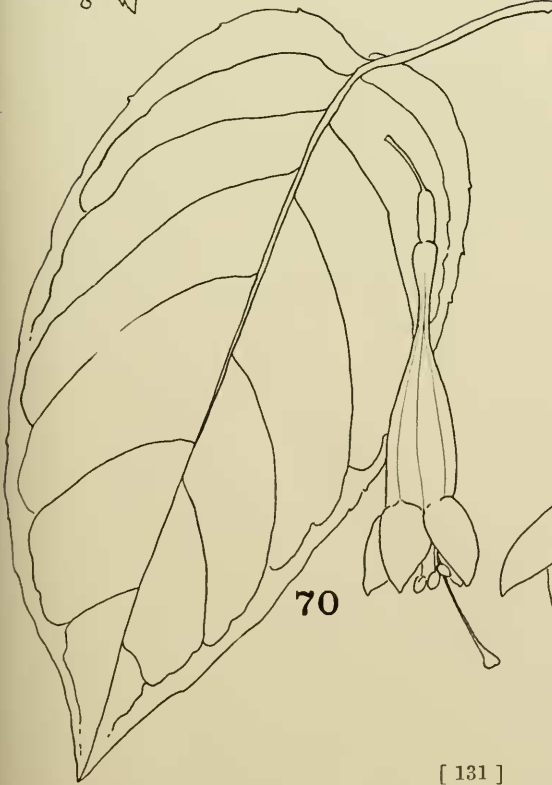
Fig. 71. *F. unduavensis*, from Buchtien 2925; flower 80 mm.; leaf 88 mm.



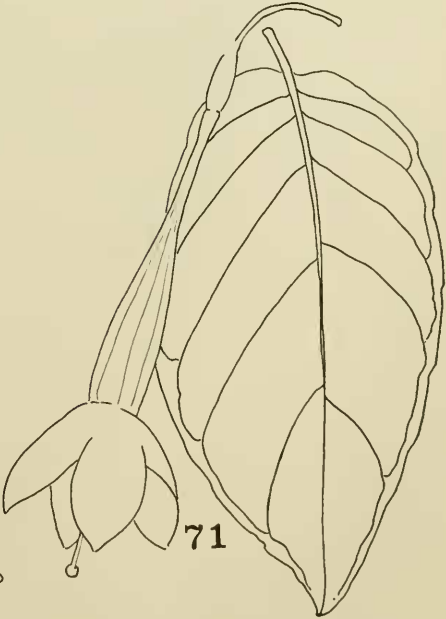
68



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70



71

PLATE 14

Fig. 72. *F. Garleppiana*, from Cárdenas 688; flower 152 mm.; leaf 153 mm.

Fig. 73. *F. macrantha*, from Cook and Gilbert 1312; flower 136 mm.; leaf 87 mm.

Fig. 74. *F. cestroides*, from Weberbauer 6423; flower 35 mm.; leaf 111 mm.

Fig. 75. *F. arborescens* var. *typica*, from Skutch 59; flower 15 mm.; leaf 125 mm.

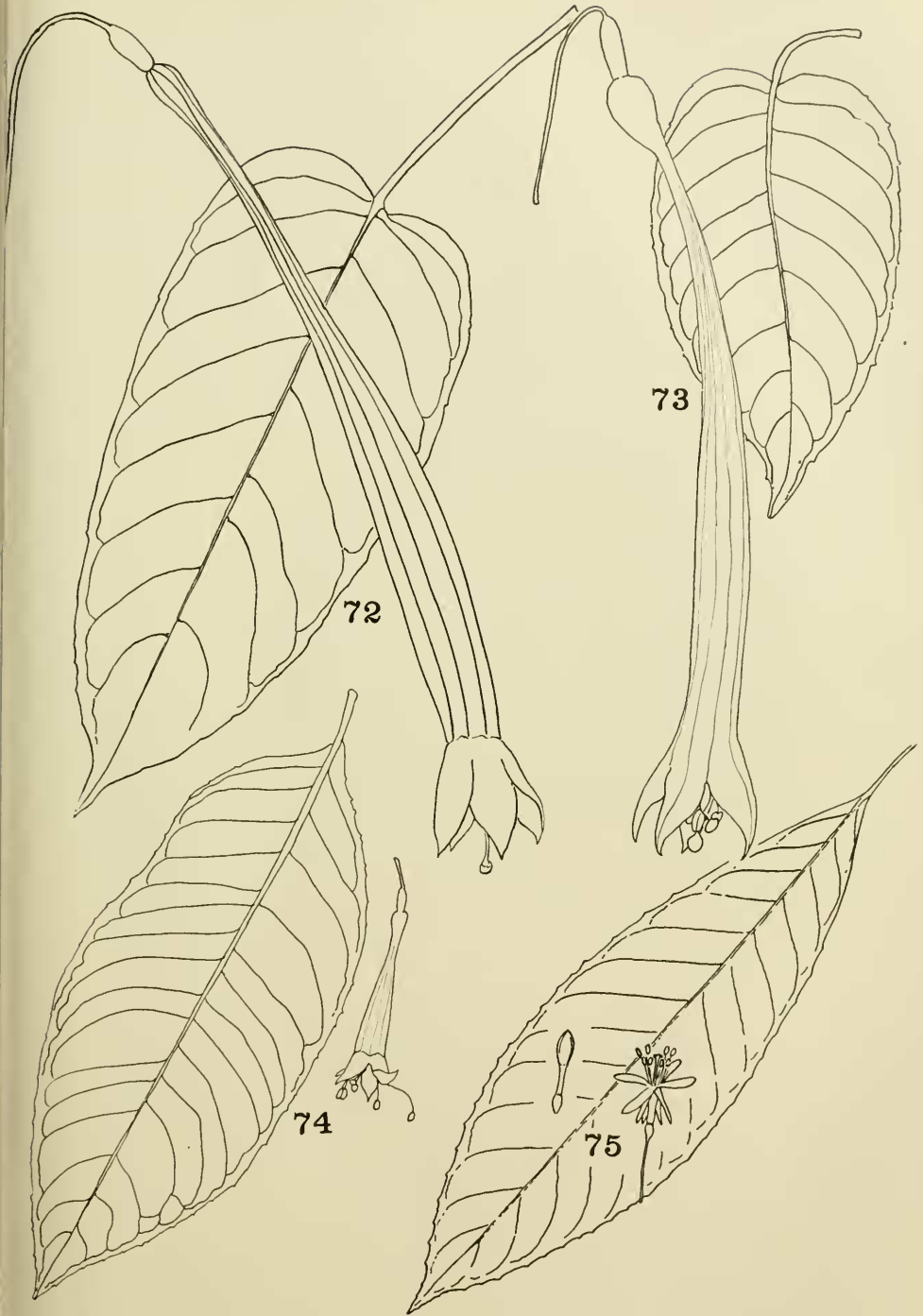




PLATE 15

- Fig. 76. *F. thymifolia*, from Pringle 9794; flower 11 mm.; leaf 21 mm.  
Fig. 77. *F. Pringlei*, from Pringle 4140; flower 7 mm.; leaf 20 mm.  
Fig. 78. *F. colimae*, from Jones 224; flower 6 mm.; leaf 20 mm.  
Fig. 79. *F. minimiflora*, from Rose and Hay 5521; flower 5 mm.; leaf 14 mm.  
Fig. 80. *F. tacancensis*, from Matuda 1686; flower 13 mm.; leaf 80 mm.  
Fig. 81. *F. Skutchiana*, from Skutch 812; flower 7 mm.; leaf 75 mm.  
Fig. 82. *F. bacillaris*, from Hort. Bot. Petrop., 1829; flower 16 mm.; leaf 30 mm.  
Fig. 83. *F. minutiflora* var. *hidalgensis*, from Pringle 8807; flower 11 mm.; leaf 14 mm.  
Fig. 84. *F. microphylla*, from Pringle 4314; perfect flower 18 mm., leaf 17 mm.; pistillate flower 10 mm., from Hartweg 285.  
Fig. 85. *F. Hemsleyana*, from Davidson 876; flower 11 mm.; leaf 15 mm.  
Fig. 86. *F. striolata*, from Matuda 4004; flower 7 mm.; leaf 95 mm.  
Fig. 87. *F. michoacanensis*, from Standley 67188; perfect flower 11 mm., leaf 40 mm.; pistillate flower from Standley 58934, 8 mm.  
Fig. 88. *F. Encliandra*, from Mexia 2718; staminate flower 13 mm., leaf 25 mm.; pistillate flower from Nelson 1803, 12 mm. long.  
Fig. 89. *F. cylindracea*, from Arsène 6523; flower 15 mm.; leaf 65 mm.  
Fig. 90. *F. tetradactyla*, from Popenoe 689; staminate flower 13 mm., leaf 40 mm.; pistillate flower from Skutch 810, 15 mm.  
Fig. 91. *F. Mexiae*, from Mexia 1465; flower 7 mm.; leaf 75 mm.

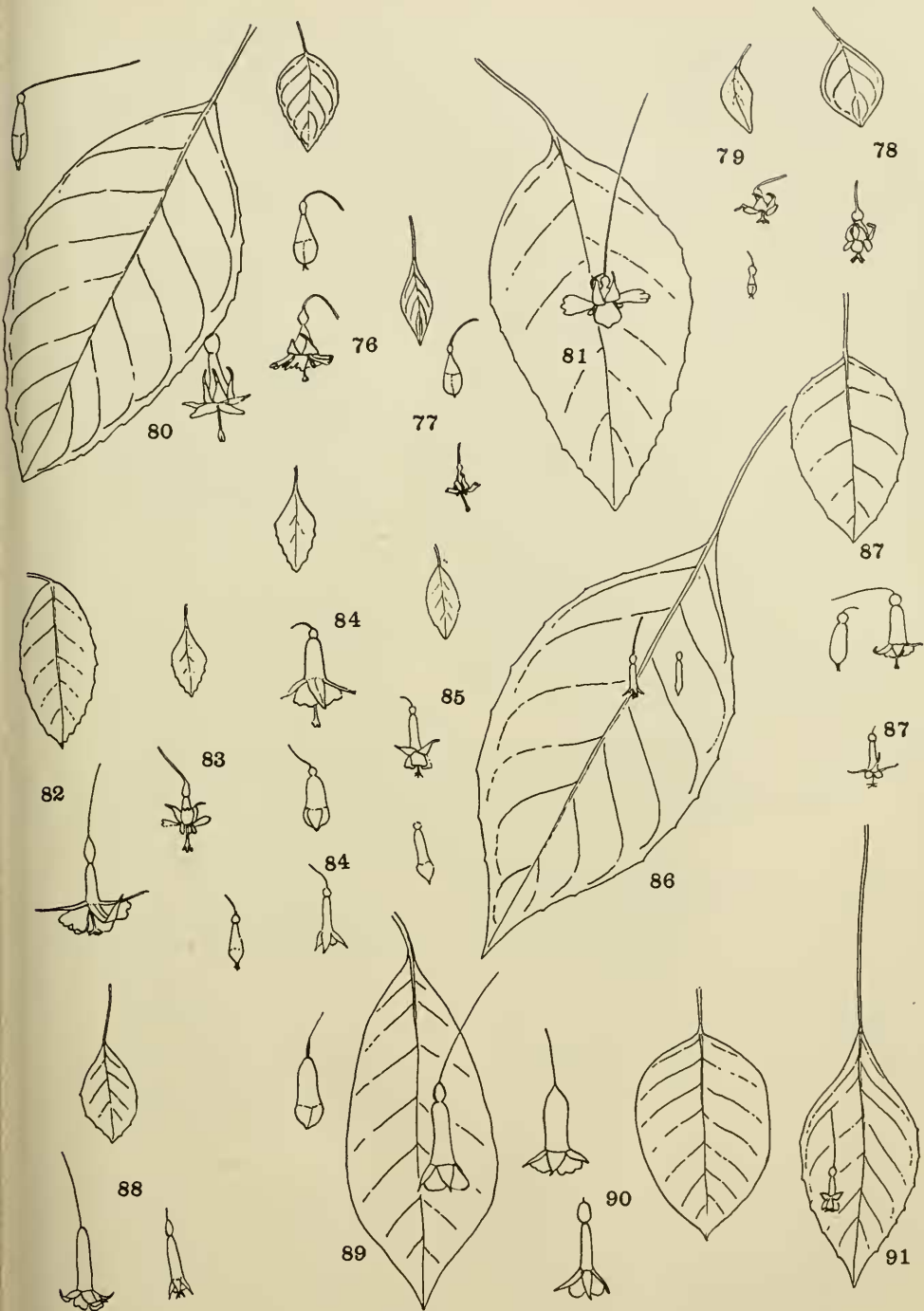


PLATE 16

(Photographs by Dr. G. Dallas Hanna)

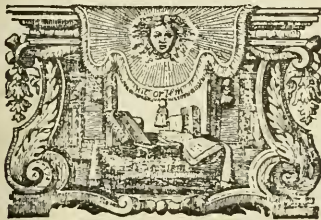
Fig. 92. Photograph of title-page of Plumier's "Nova Plantarum americanarum Genera."

Fig. 93. Photograph of Plate 14 of same with first illustrations of the Genus *Fuchsia*.

Figs. 94 and 95. Photographs of pages 14 and 15 of same containing the description of *Fuchsia* by Plumier.

# NOVA PLANTARUM AMERICANARUM GENERA,

Authore P. CAROLO PLUMIER Ordinis  
Minimorum in Provincia Francix, & apud Infulas  
Americanas Botanico Regio.

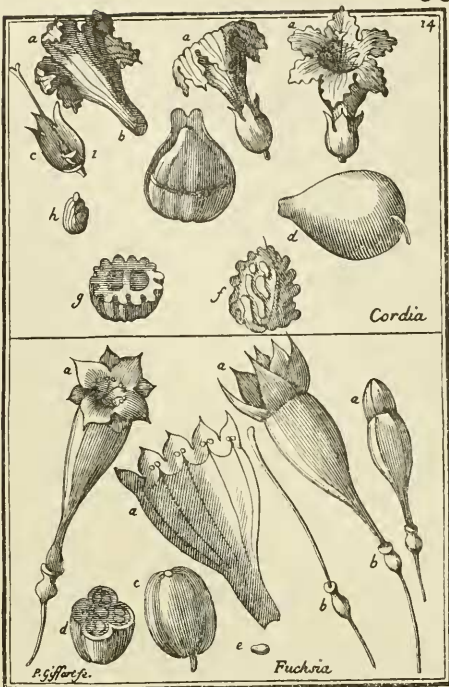


PARISIIS,

Apud JOANNEM BOUDOT, Regis & Regiæ Scientiarum  
Academiæ Typographum, via Jacobæ, ad Solm. Arcum.

M. DCCIII.

CUM PRIVILEGIO REGIS.



## NOVA PLANT.

14 mus *Discoferidis* & *fallicissimus* indagator plantarum non antea  
cognitarum fuit. Ad quod paucis exemplo inflammasse, qui cum  
ab innacundulis inter ipsas herbas & flores voluit educari. Romæ  
mortuus 1544. ætat. 19. Edidit *Historia stirpium* Lib. 4. Extat  
*Argentina* 1561. Fcl.

TRAGIA.

14. **T**ragia est plantæ genus flore A monopetalo, infundibuli-  
formi, plurimque trifariam diviso, sed sterili. Embryones  
enim C a floribus sejunguntur in eadem planta & abeunt deinde  
in fructum D tricoecum, ex tribus scilicet capsulis E compositum,  
semine factis splicato F.

Tragia species sunt.  
Tragia scandens longo Betonicæ folio.  
Tragia alia scandens urticæ folio.

*Hieronymus Tragus* alias *Hieronymus Bokius* vernacule *Bock de Heidsfack*, natus enim est *Heidsfackii* sub an. 1498. *Episcopus* vixit per aliquot annos ubi horum *Ducis Ludovici Palatini Rheni* varii generis plantis instruit. Inde *Hornbatum*, postea *Sarepontum* se conferens *Historiam herbarum* condidit, in qua in tres *Libros* divisa de *stirpium differentiis* & *facultatibus* fuisse differit. *Mortuus* est autem an. 1554. 21 Febr. ætat. 56. extat opus *Argentorati* 1552. in quarte.

FUCHSIA.

14. **F**uchsia est plantæ genus flore A monopetalo, infundibuli-  
formi & multi-fido; ex cujus calyce C bicotni surgit  
pistillum infimæ stotis parti B, ad instar clavi infixum, quod  
deinde abit in fructum D fere globosum aut turbinatum, trifaria-  
m dehiscentem E, & feminibus fetum F subrotundis, &  
tenuibus capillamentis, ecu placenta affixis.

Turnera unicum speciem agnovi.  
Fuchsia triphylla, flore coccineo.  
*Leonartus Fuchsius* *Vembdingæ*, *Rhætiæ* *Oppido* in ditone *Ducum*  
*Bavariæ* natus 1501. *Medicinæ* *Doctõr* *renunciatus* *Monschum*  
adit, deinde *Tubingum*, ubi 35. annis præclare docuit. *Vix*  
fuit assidui laboris, plantarum *Germaniæ* diligens explorator.  
*Magno* *herbariorum* *commodo* *harum* *icenas* *sic*. amplioris for-

## AMERIC. GENERA.

15 me exhibit. *Tubingæ* mortuus est anno 1566. 10. *Maji*, *ata-Melchioris* 65. *Scriptis de Historia stirpium Commentariis* insignes: *Ba-Adam*  
filice 1542. in folio.

RONDELETIA.

**R**ondeletia est plantæ genus flore A monopetalo, hypocrateri-  
formi, tubulato & calyce C infundente. Is autem ca-  
lyx abit deinde in fructum D subrotundum, coronatum, bicap-  
sularem E, & feminibus fetum exiguis F.

Rondeletia unicum speciem novum.  
Rondeletia arborecens, tinni facie.  
*Guillelmus Rondeletius* *Monsfessulii* natus, anno 1507. die 27.  
*Sept.* *Medicina* arte præcelsus, de piscibus & de piscium natu-  
ra præclarum Opus condidit, sed etiam simplicibus medicamen-  
tis dignoscendis & inveniendis summam operam collocavit, ar-  
que in eo multum excellit, *Diocoridem* primum *Monsfessuli* enar-  
rans. *Plura* in *Diocoridem* scripsisse apparet, ex *Epistolis* *Gif-  
neri* ad *L. Bauhinum*, à *C. Bauhino* editis. *Cancellarius* *Scho-  
læ* *Monsfessulensis* mortuus est anno 1566.

TURNERA.

**T**urnera est plantæ genus flore A monopetalo, infundibuli-  
formi & multi-fido; ex cujus calyce C bicotni surgit  
pistillum infimæ stotis parti B, ad instar clavi infixum, quod  
deinde abit in fructum D fere globosum aut turbinatum, trifaria-  
m dehiscentem E, & feminibus fetum F subrotundis, &  
tenuibus capillamentis, ecu placenta affixis.

Turnera unicum vidi speciem.  
Turnera frutescens, ulmi-folia.  
*Guillelmus Turnerus* *Anglus*, *Medicinæ* *Doctõr*, *vir* *solide* *erud.* *Reim* *1599*.  
*ditionis* & *judicii*, *emisse* *plantarum* *Historiam* *Angliæ*, anno *Plant.*  
*1551.* in qua *Figuras* *Fuchsi* *plerumque* *adhibuit*, *nomen* *expressit*  
*latine*, *græcè*, *anglicè*, *germanicè*, *gallicè*, *ordinem* *alpha-  
beticum* *secutus*.

